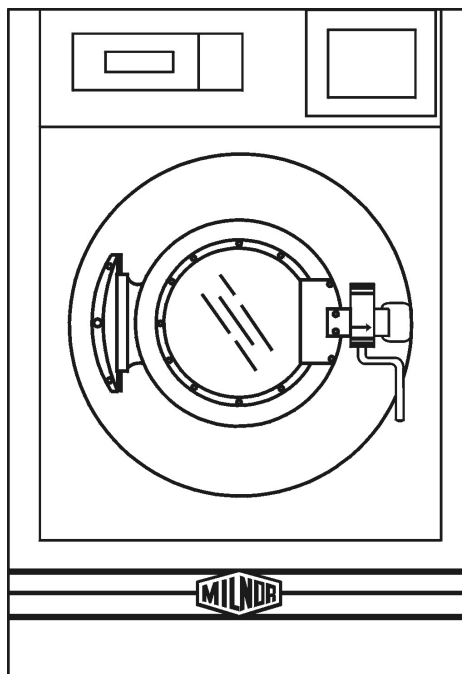




Published Manual Number/ECN: ME7HF8J1BE/2002496N

- Publishing System: TPAS
- Access date: 12/13/2002
- Document ECN's: Latest Available

# Schematic/Electrical Parts— 30022 and 36030F8J 42032F7J and 48040F7J/B MARK V CONTROLS



# Please Read

## About the Manual Identifying Information on the Cover

The front cover displays pertinent identifying information for this manual. Most important, are the published manual number (part number) /ECN (date code). Generally, when a replacement manual is furnished, it will have the same published manual number, but the latest available ECN. This provides the user with the latest information applicable to his machine. Similarly all documents comprising the manual will be the latest available as of the date the manual was printed, **even though older ECN dates for those documents may be listed in the table of contents.**

When communicating with the Milnor factory regarding this manual, please also provide the other identifying information shown on the cover, including the publishing system, access date, and whether the document ECN's are the latest available or exact.

## References to Yellow Troubleshooting Pages

This manual may contain references to "yellow pages." Although the pages containing troubleshooting procedures are no longer printed on yellow paper, troubleshooting instructions, if any, will be contained in the easily located "Troubleshooting" chapter or section. See the table of contents.

## Trademarks of Pellerin Milnor Corporation

The following, some of which may be used in this manual, are trademarks of Pellerin Milnor Corporation:

Ampsaver <sup>®</sup>	Dye-Extractor <sup>®</sup>	Gear Guardian <sup>®</sup>	Milnet <sup>®</sup>	Staph-Guard <sup>®</sup>
Autolint <sup>®</sup>	Dyextractor <sup>®</sup>	Hands-Off <sup>®</sup>	Milnor <sup>®</sup>	System 4 <sup>®</sup>
Auto-Purge <sup>®</sup>	E-P Express <sup>®</sup>	Hydro-Cushion <sup>®</sup>	Miltrac	System 7 <sup>®</sup>
Autovac	E-P OneTouch <sup>®</sup>	Mildata <sup>®</sup>	Miltron	Totaltrol <sup>®</sup>
CBW <sup>®</sup>	E-P Plus <sup>®</sup>			

## Comments and Suggestions

Help us to improve this manual by sending your comments to:

Pellerin Milnor Corporation  
Attn: Technical Publications  
P. O. Box 400  
Kenner, LA 70063-0400

Fax: (504) 469-1849

# Table of Contents

## for ME7HF8J1BE/2002496N

### 30022 and 36030F8J 42032F7J and 48040F7J/B MARK V CONTROLS

Page	Description	Document/ECN
1	Component Parts List	W7F5JPL/2002384N
9	Warranty	BMP720097/92732A
10	How to Order Parts	BMP720097R/72332A
12	How to Use Electrical Schematics	MSFD0106AE/95041V
22	3 Phase Motor Connection Diagram	BMP850029/99362B
23	3P Motor Diagram-Multivolt	W80008/2001253A
24	Control Box Layouts 30"	W7F5JTG1/2001175B
26	Control Box Layouts 36"+42"	W7F5JTG2/2001175B
28	Control Box Layouts 48040	W7F5JTG3/2002243B
30	Board to Board Wiring	W7F5JBW/2001125B
32	Flushing Supplies #1 thru #5	W7F5JCF/2001365B
34	8 Flushing Supplies-Optional	W7F5JCM/2001125B
36	Alternate Drain Valve-Air Operated	W7F5JDR/97107B
38	Electric Valves	W7F5JEV/2002496B
40	Elec. Vlvs.-Bath Soak-Non Air Operated	W7F5JEVS/2002496B
42	Hydraulic Door 48040F7B/J only	W7F5JHD/2002243B
44	Microprocessor Inputs	W7F5JIA/2001365B
46	Control Circuit Transformers	W7F5JLV/98302B
48	600V Step Down Transformer for Inverter	W7F5JMT6/2001084B
50	Raise House Wiring 48040F7B Only	W7F5JRH/2002243B
52	Start Circuit 30F8J, 36+42V6J	W7F5JS+A/97132B
54	Start Circuit 30F8J+Bath Soak	W7F5JS+B/97132B
56	Start Circuit 42F7J	W7F5JS+C/2001125B
58	Start Circuit 42F7J+Bath Soak	W7F5JS+D/2001125B
60	Start Circuit for 48040F7B (tilt)	W7F5JS+E/2002243B
62	Start Circuit for 48040F7J (non tilt)	W7F5JS+F/2002384B
64	Signal Beacon - Optional	W7F5JSB/2000046B
66	Variable Speed Drive 30F8J	W7F5JVP/2001036B
68	Variable Spd Drive 36+42F7J- GPD505	W7F5JVPB/2001125B
70	Variable Spd Drive 36+42FxJ-Baldor	W7F5JVPC/2001175B
72	Variable Speed Controller for 30022F8J with 515 Inverter	W7F5JVPD/2001084B
74	Variable Speed Inverter for 48040 F	W7F5JVPE/2002243B
76	Variable Speed Controller for 36 & 42 F#J-GPD315	W7F5JVPF/2001322B



# COMPONENT PARTS LIST

<u>COMPONENT NUMBER</u>	<u>FUNCTION OF THIS COMPONENT NUMBER</u>	<u>WHERE TO FIND THIS COMPONENT</u>	<u>MILNOR P/N</u>	<u>DESCRIPTION</u>	<u>LOCATION</u>
	<b>&gt;&gt;&gt;CONTROL BOX LAYOUTS</b>				
001	DETAIL-30022 CONTROL BOX	W7F5JTG1	B2TAG97080	M5 30022F8J CONTROL BOX	SEE FUNCTION
002	DETAIL-30022 PROCESSOR BOX	W7F5JTG1	B2TAG96050	36030 F8J PROCESSOR BOX	SEE FUNCTION
003	DETAIL-42032 CONTROL BOX	W7F5JTG2	B2TAG97034	42032 F7J CONTROL BOX	SEE FUNCTION
004	DETAIL-LIQUID SUPPLIES INT RELAY	W7F5JTG2	B2TAG96052	LIQUID SUPPLIES INTRPRT RLY	SEE FUNCTION
005	DETAIL-PROCESSOR BOX	W7F5JTG2	B2TAG96050	36030 F8J PROCESSOR BOX	SEE FUNCTION
006	DETAIL-VALVE ASSEMBLY	W7F5JTG2	B2TAG95056	TAG:42032F7 VALVE ASSEMBLY	SEE FUNCTION
007	DETAIL-36030 CONTROL BOX	W7F5JTG2	B2TAG96041	36030 F8J CONTROL BOX	SEE FUNCTION
008	DETAIL-48040 LOW VOLTAGE C-BOX	W7F5JTG3	B2T2000020	4840 F7J CNTRL BOX	SEE FUNCTION
009	DETAIL-48040 HIGH VOLTAGE C-BOX	W7F5JTG3	B2T2000021	48040F7J/B/P HIGH VOLT CNTL BX	SEE FUNCTION
010	DETAIL-48040 AIR VALVE BOX	W7F5JTG3	B2T2000019	TAG:4840 F7N VALVE SET	SEE FUNCTION
BA	<b>&gt;&gt;&gt;PRINTED CIRCUIT BOARDS</b>				
BAAD	BOARD-ANALOG TO DIGITAL CONV.BD.	W7F5JBW	08BNCMADAT	BD:COIN MACH A-D CONV-TESTED	CONTROL BOX
BADV	BOARD-VACUMN FLOR DISPLAY	W7F5JBW	08BSEVFD2T	VFD DISPLAY BUFFER-SM-TESTED	SWITCH PANEL
BAO	BOARD-OUTPUT 16 CHANNEL	W7F5JBW	08BNCMOAT	VARI SPD OUTPT F,V#J->TEST	CONTROL BOX
BAO	BOARD OUTPUT	W7F5JBW	08BNCMOT	BD COIN MACH OUTPUT ->TESTED	SWITCH PANEL
BAS	BOARD-SNUBBER 16 CHANNEL	W7F5JBW	08BNCMBT	COIN MACHINE SNUBBER->TESTED	CONTROL BOX
BAS-0	BOARD-SNUBBER 8 CHANNEL	W7F5JBW	08BN8SAT	8 CIRCUIT SNUBBER->TESTED	CONTROL BOX
BAUO-0	BOARD-OPTIONAL 6 OUTPUTS	W7F5JBW	08BN6OAT	6 OUTPUT BOARD->TESTED	CONTROL BOX
BAUP	BOARD-MICROPROCESSOR	W7F5JBW	08BN788AT	BD:8088 PROC 22OUT-16IN-TEST	PROCESSOR BX
CL	<b>&gt;&gt;&gt;RELAY-LATCH</b>				
CLA	LATCH-DOOR SEAL	W7F5JS+C	09CLC2C-C71	RELAY-LATCH DPDT 240V 2-COIL	CONTROL BOX
CLA	LATCH-DOOR SEAL	W7F5JS+D	09CLC2C-C71	RELAY-LATCH DPDT 240V 2-COIL	CONTROL BOX
CLA	LATCH-DOOR SEAL	W7F5JS+E	09CLC2C-C71	RELAY-LATCH DPDT 240V 2-COIL	CONTROL BOX
CLA	LATCH-DOOR SEAL	W7F5JS+F	09CLC2C-C71	RELAY-LATCH DPDT 240V 2-COIL	CONTROL BOX
CR	<b>&gt;&gt;&gt;RELAY-PILOT OR CONTROL</b>				
CR1	RELAY-ENABLE BATH SOAK	W7F5JS+B	09C024D71	RELAY 4PDT DIFGLD 14PN 240V	CONTROL BOX
CRA	RELAY OPEN DOOR	W7F5JS+E	09C024D71	RELAY 4PDT DIFGLD 14PN 240V	CONTROL BOX
CR1	RELAY-FLUSH CHEMICAL #1	W7F5JCM	09C024D71	RELAY 4PDT DIFGLD 14PN 240V	CHEM OUT BOX
CR2	RELAY-FLUSH CHEMICAL #2	W7F5JCM	09C024D71	RELAY 4PDT DIFGLD 14PN 240V	CHEM OUT BOX
CR3	RELAY-FLUSH CHEMICAL #3	W7F5JCM	09C024D71	RELAY 4PDT DIFGLD 14PN 240V	CHEM OUT BOX
CR4	RELAY-FLUSH CHEMICAL #4	W7F5JCM	09C024D71	RELAY 4PDT DIFGLD 14PN 240V	CHEM OUT BOX
CR5	RELAY-FLUSH CHEMICAL #5	W7F5JCM	09C024D71	RELAY 4PDT DIFGLD 14PN 240V	CHEM OUT BOX

# COMPONENT PARTS LIST

<u>COMPONENT NUMBER</u>	<u>FUNCTION OF THIS COMPONENT NUMBER</u>	<u>WHERE TO FIND THIS COMPONENT</u>	<u>MILNOR P/N</u>	<u>DESCRIPTION</u>	<u>LOCATION</u>
CRCL	RELAY-DOOR CLOSED	W7F5JS+A	09C024D71	RELAY 4PDT DIFGLD 14PN 240V	OUTPUT BOARD
CRCL	RELAY-DOOR CLOSED	W7F5JS+B	09C024D71	RELAY 4PDT DIFGLD 14PN 240V	OUTPUT BOARD
CRCL	RELAY-DOOR CLOSED	W7F5JS+C	09C024D71	RELAY 4PDT DIFGLD 14PN 240V	OUTPUT BOARD
CRD	RELAY-OK TO OPEN DOOR	W7F5JS+A	09C024D71	RELAY 4PDT DIFGLD 14PN 240V	CONTROL BOX
CRD	RELAY-OK TO OPEN DOOR	W7F5JS+B	09C024D71	RELAY 4PDT DIFGLD 14PN 240V	CONTROL BOX
CRD	RELAY-OK TO OPEN DOOR	W7F5JS+C	09C024D71	RELAY 4PDT DIFGLD 14PN 240V	CONTROL BOX
CRD	RELAY-OK TO OPEN DOOR	W7F5JS+D	09C024D71	RELAY 4PDT DIFGLD 14PN 240V	CONTROL BOX
CRD	RELAY-OK TO OPEN DOOR	W7F5JS+E	09C024D71	RELAY 4PDT DIFGLD 14PN 240V	OUTPUT BOARD
CRD	RELAY-OK TO OPEN DOOR	W7F5JS+F	09C024D71	RELAY 4PDT DIFGLD 14PN 240V	OUTPUT BOARD
CRDL	RELAY-DOOR CLOSED	W7F5JS+D	09C024D71	RELAY 4PDT DIFGLD 14PN 240V	CONTROL BOX
CRDL	RELAY-DOOR CLOSED	W7F5JS+E	09C024D71	RELAY 4PDT DIFGLD 14PN 240V	CONTROL BOX
CRDL	RELAY-DOOR CLOSED	W7F5JS+F	09C024D71	RELAY 4PDT DIFGLD 14PN 240V	CONTROL BOX
CRDOA	RELAY-DOOR FULL OPEN	W7F5JRH	09C024D71	RELAY 4PDT DIFGLD 14PN 240V	CONTROL BOX
CREI	RELAY-OK TO JOG OR TILT	W7F5JS+E	09C024D71	RELAY 4PDT DIFGLD 14PN 240V	CONTROL BOX
CREI	RELAY-OK TO JOG OR TILT	W7F5JS+F	09C024D71	RELAY 4PDT DIFGLD 14PN 240V	CONTROL BOX
CRFDL	RELAY-FRONT DOWN LEFT	W7F5JRH	09C024D71	RELAY 4PDT DIFGLD 14PIN 240V	CONTROL BOX
CRFDR	RELAY-FRONT DOWN RIGHT	W7F5JRH	09C024D71	RELAY 4PDT DIFGLD 14PIN 240V	CONTROL BOX
CRIF	RELAY-INVERTER FAULT	W7F5JVPC	09C02DDDD24	RELAY 3PDT SILVER 11PIN 24VDC	CONTROL BOX
CRRDL	RELAY-REAR DOWN LEFT	W7F5JRH	09C024D71	RELAY 4PDT DIFGLD 14PIN 240V	CONTROL BOX
CRRDR	RELAY-REAR DOWN RIGHT	W7F5JRH	09C024D71	RELAY 4PDT DIFGLD 14PIN 240V	CONTROL BOX
CRSB	RELAY-SIGNAL BEACON	W7F5JSB	09C024D71	RELAY 4PDT DIFGLD 14PN 240V	CONTROL BOX
CS	>>>CONTACTOR-MOTOR STARTER				
CSDO	CONTACTOR-HYDRAULIC PUMP	W7F5JHD	09MC08B71		CONTROL BOX
CSVP	CONTACTOR-INVERTER	W7F5JS+A	09MC08C371	16A 3P MCS CONT NR 240V5/6	CONTROL BOX
CSVP	CONTACTOR-INVERTER	W7F5JS+B	09MC08C371	16A 3P MCS CONT NR 240V5/6	CONTROL BOX
CSVP	CONTACTOR-INVERTER	W7F5JS+C	09MC08G371	37A 3P MCS CONT NR 240V5/6	CONTROL BOX
CSVP	CONTACTOR-INVERTER	W7F5JS+D	09MC08G371	37A 3P MCS CONT NR 240V5/6	CONTROL BOX
CSVP	CONTACTOR-INVERTER	W7F5JS+E	09MC08N371	72A 3P MCS CONT NR 240V5/6	CONTROL BOX
CSVP	CONTACTOR-INVERTER	W7F5JS+F	09MC08N371	72A 3P MCS CONT NR 240V5/6	CONTROL BOX
EB	>>>BUZZER OR AUDIBLE SIGNAL				
EBSG	BUZZER-SIGNAL AUDIBLE	W7F5JS+A	09H016	BUZZ/230V W/6-32 CTR+6"LEADS	SWITCH PANEL
EBSG	BUZZER-SIGNAL AUDIBLE	W7F5JS+B	09H016	BUZZ/230V W/6-32 CTR+6"LEADS	SWITCH PANEL
EBSG	BUZZER-SIGNAL AUDIBLE	W7F5JS+C	09H016	BUZZ/230V W/6-32 CTR+6"LEADS	SWITCH PANEL

# COMPONENT PARTS LIST

<u>COMPONENT NUMBER</u>	<u>FUNCTION OF THIS COMPONENT NUMBER</u>	<u>WHERE TO FIND THIS COMPONENT</u>	<u>MILNOR P/N</u>	<u>DESCRIPTION</u>	<u>LOCATION</u>
EBSG	BUZZER-SIGNAL AUDIBLE	W7F5JS+D	09H016	BUZZ/230V W/6-32 CTR+6"LEADS	SWITCH PANEL
EBSG	BUZZER-AUDIBLE SIGNAL	W7F5JS+E	09H016	BUZZ/230V W/6-32 CTR+6"LEADS	SWITCH PANEL
EBSG	BUZZER-AUDIBLE SIGNAL	W7F5JS+F	09H016	BUZZ/230V W/6-32 CTR+6"LEADS	SWITCH PANEL
EF	>>FUSE OR FUSE HOLDER				
EF01	FUSE-CONTROL CIRCUIT X-BUS	W7F5JS+A	09FF002AMG	FUSE BK/MDX 2 AMP 250V BUSS	CONTROL BOX
EF01	FUSE-CONTROL CIRCUIT X-BUS	W7F5JS+B	09FF002AMG	FUSE BK/MDX 2 AMP 250V BUSS	CONTROL BOX
EF01	FUSE-CONTROL CIRCUIT X-BUS	W7F5JS+C	09FF002AMG	FUSE BK/MDX 2 AMP 250V BUSS	CONTROL BOX
EF01	FUSE-CONTROL CIRCUIT X-BUS	W7F5JS+D	09FF002AMG	FUSE BK/MDX 2 AMP 250V BUSS	CONTROL BOX
EF02	FUSE-CONTROL CIRCUIT Y-BUS	W7F5JS+A	09FF002AMG	FUSE BK/MDX 2 AMP 250V BUSS	CONTROL BOX
EF02	FUSE-CONTROL CIRCUIT Y-BUS	W7F5JS+B	09FF002AMG	FUSE BK/MDX 2 AMP 250V BUSS	CONTROL BOX
EF02	FUSE-CONTROL CIRCUIT Y-BUS	W7F5JS+C	09FF002AMG	FUSE BK/MDX 2 AMP 250V BUSS	CONTROL BOX
EF02	FUSE-CONTROL CIRCUIT Y-BUS	W7F5JS+D	09FF002AMG	FUSE BK/MDX 2 AMP 250V BUSS	CONTROL BOX
EF1 (200-240V)	FUSE-TRANSFORMER PRIMARY	W7F5JLV	09FF005AWN	FUSE #KTK 5A600V=HPS HOLDER	CONTROL BOX
EF1 (346-600V)	FUSE-TRANSFORMER PRIMARY	W7F5JLV	09FF002AWN	FUSE BUSS #KTK 2 1/2 AMP 600V	CONTROL BOX
EF2 (200-240V)	FUSE-TRANSFORMER PRIMARY	W7F5JLV	09FF005AWN	FUSE #KTK 5A600V=HPS HOLDER	CONTROL BOX
EF2 (346-600V)	FUSE-TRANSFORMER PRIMARY	W6F5JLV	09FF002AWN	FUSE BUSS #KTK 2 1/2 AMP 600V	CONTROL BOX
EL	>>>LIGHT PILOT OR INDICATOR				
ELSB8	BEACON-RETATING SIGNAL	W7F5JSB	09H025V37	BEACON ROTARY 5.5" DIA AMBER	FRNT OF MACH
ELSG	LIGHT -SIGNAL VISUAL	W7F5JS+A	09J060A71	LAMP 1/2" AMB 250V IDI 1051QC3	SWITCH PANEL
ELSG	LIGHT -SIGNAL VISUAL	W7F5JS+B	09J060A71	LAMP 1/2" AMB 250V IDI 1051QC3	SWITCH PANEL
ELSG	LIGHT -SIGNAL VISUAL	W7F5JS+C	09J060A71	LAMP 1/2" AMB 250V IDI 1051QC3	SWITCH PANEL
ELSG	LIGHT -SIGNAL VISUAL	W7F5JS+D	09J060A71	LAMP 1/2" AMB 250V IDI 1051QC3	SWITCH PANEL
ELSG	LIGHT -SIGNAL VISUAL	W7F5JS+E	09J060A71	LAMP 1/2" AMB 250V IDI 1051QC3	SWITCH PANEL
ELSG	LIGHT -SIGNAL VISUAL	W7F5JS+F	09J060A71	LAMP 1/2" AMB 250V IDI 1051QC3	SWITCH PANEL
ELSG	LIGHT -SIGNAL VISUAL	W7F5JSB	09J060A71	LAMP 1/2" AMB 250V IDI 1051QC3	SWITCH PANEL
EM	>>>ELECTROMAGNET AND SOLENOID				
EMDL	SOLENOID-DOOR UNLOCK	W7F5JS+A	09K062B71	SOLENOID 240/60--220/50 = ILOC	DOOR LTCH BX
EMDL	SOLENOID-DOOR UNLOCK	W7F5JS+B	09K062B71	SOLENOID 240/60--220/50 = ILOC	DOOR LTCH BX
EMDR	SOLENOID-DRAIN VALVE	W7F5JEV	96D350A71	ADRINVAL 3"MTRDR 240V 50/60C	BELOW SHELL
EMDR	SOLENOID-DRAIN VALVE	W7F5JEVS	96D350A71	ADRINVAL 3"MTRDR 240V 50/60C	BELOW SHELL
ES	>>>POWER SUPPLY-ELECTRONIC				
ESPS	POWER SUPPLY-MICROPROCESSOR	W7F5JBW	08PSS3401T	40 WATT POWER SUPPLY TESTED	CONTROL BOX
ET	OVERLOAD-DYNAMIC BRAKE				

# COMPONENT PARTS LIST

W7F5JPL/2002384N

FUNCTION OF THIS		WHERE TO FIND		MILNOR P/N	DESCRIPTION	LOCATION
COMPONENT NUMBER	COMPONENT NUMBER	THIS COMPONENT				
ETDB	OVERLOAD-DYNAMIC BRAKE	W7F5JVP	09F024A	OL RELAY 1P SZ1 SQD #9065-C01	CONTROL BOX	
ETDB	OVERLOAD-DYNAMIC BRAKE	W7F5JVPD	09F024A	OL RELAY 1P SZ1 SQD #9065-C01	CONTROL BOX	
ETDB	OVERLOAD-DYNAMIC BRAKE	W7F5JVPE	09F024A	OL RELAY 1P SZ1 SQD #9065-C01	CONTROL BOX	
EX	>>TRANSFORMERS					
EXHV-1	TRANSFORMER-208VAC TO 240VAC	W7F5JLV	09U250AT71	AUTOXFMR 208V-230V 250VA	CONTROL BOX	
EXHV-2	TRANSFORMER-380/480 V TO 240	W7F5JLV	09UA025AAB	XFMR 380-480PRI/120-240SEC250V	CONTROL BOX	
EXSB	TRANSFORMER-240VAC TO 120VAC	W7F5JSB	09UA025A37	XFMR 200-240PRI/120SEC 250V5/6	CONTROL BOX	
MT	>>MOTORS					
MTD	MOTOR-DRIVE	W7F5JVPE	MESSAGE SO	SEE SPECIFIC COMPONENT+NAMEPLATE	MACHINE	
MTVP	COOLING FAN-INVERTER	W7F5JS+A	13AF100A71	FAN 92CFM230V60 NEWARK#90F6926	CONTROL BOX	
MTVP	COOLING FAN-INVERTER	W7F5JS+B	13AF100A71	FAN 92CFM230V60 NEWARK#90F6926	CONTROL BOX	
MTVP	COOLING FAN-INVERTER	W7F5JS+C	13AF100A71	FAN 92CFM230V60 NEWARK#90F6926	CONTROL BOX	
MTVP	COOLING FAN-INVERTER	W7F5JS+D	13AF100A71	FAN 92CFM230V60 NEWARK#90F6926	CONTROL BOX	
MTVP	COOLING FAN-INVERTER	W7F5JS+E	13AF100A71	FAN 92CFM230V60 NEWARK#90F6926	CONTROL BOX	
MTVP	COOLING FAN-INVERTER	W7F5JS+F	13AF100A71	FAN 92CFM230V60 NEWARK#90F6926	CONTROL BOX	
MV	>>>MOTOR POWER INVERTERS					
MVDBR	RESISTOR-DYNAMIC BRAKE	W7F5JVP	09MV100RES	RESIST 100 OHM 225WATT ADJ	DYN BRK BOX	
MVDBR	RESISTOR-DYNAMIC BRAKE	W7F5JVPD	09MV100RES	RESIST 100 OHM 225WATT ADJ	DYN BRK BOX	
MVDBR	RESISTOR-DYNAMIC BRAKE	W7F5JVPE	09MV100RES	RESIST 100 OHM 225WATT ADJ	BELOW C-BX	
MVINV-H	INVERTER-5HP VARI SPEED HIGH VOLTAGE	W7F5JVP	09MV050D96	VARISPEED-TRANS+R 5HP 380-460V	CONTROL BOX	
MVINV-H	INVERTER-3630+4232 VARISPEED HI VOLT	W7F5JVPB	09MV021A96	VARISPEED 21 AMPS 460V	CONTROL BOX	
MVINV-H	INVERTER-3022 VARISPEED HIGH VOLT	W7F5JVPD	09MV050F96	VARISPEED V MACHINES 5HP 460V	CONTROL BOX	
MVINV-H	INVERTER-4840 VARISPEED HIGH VOLT	W7F5JVPE	09MV034A96	VARISPEED 34 AMPS 460V	CONTROL BOX	
MVINV-L	INVERTER-5HP VARI SPEED LOW VOLTAGE	W7F5JVP	09MV050D74	VARISPEED-TRANS+R 5HP 200-230V	CONTROL BOX	
MVINV-L	INVERTER-4232 VARISPEED LOW VOLT	W7F5JVPB	09MV054B74	VASPD 54A 230V & BRAKE MODULE	CONTROL BOX	
MVINV-L	INVERTER-4232 VARISPEED LOW VOLT	W7F5JVPD	09MT042A74	BALDOR INVERTER 42AMP 230V	CONTROL BOX	
MVINV-L	INVERTER-3022 VARISPEED LOW VOLT	W7F5JVPE	09MV050F74	VARISPEED V MACHINES 5HP 230V	CONTROL BOX	
MVINV-L	INVERTER- 4840 VARISPEED LOW VOLT	W7F5JVP	09MV054B74	VASPD 54A 230V & BRAKE MODULE	CONTROL BOX	
PXD0	PROX SW-DOOR FULL OPEN	W7F5JRH	09RPS30AAS	PRXSW QK CONN 30M NO-AC SHLD	SHELL FRONT	
PXFDL	PROX SW-FRONT DOWN LEFT	W7F5JRH	09RPS12AAS	PROXSW QD CONN 12M NO-AC SHLD	SIDE OF MACH	
PXFDR	PROX SW-FRONT DOWN RIGHT	W7F5JRH	09RPS12AAS	PROXSW QD CONN 12M NO-AC SHLD	SIDE OF MACH	
PXRDL	PROX SW-REAR DOWN LEFT	W7F5JRH	09RPS12AAS	PROXSW QD CONN 12M NO-AC SHLD	SIDE OF MACH	
PXRDR	PROX SW-REAR DOWN RIGHT	W7F5JRH	09RPS12AAS	PROXSW QD CONN 12M NO-AC SHLD	SIDE OF MACH	



# COMPONENT PARTS LIST

W7F5JPL/2002384N

<u>COMPONENT</u>	<u>FUNCTION OF THIS</u>	<u>WHERE TO FIND</u>	<u>MILNOR P/N</u>	<u>DESCRIPTION</u>	<u>LOCATION</u>
<u>NUMBER</u>	<u>COMPONENT NUMBER</u>	<u>THIS COMPONENT</u>			
SH	>>SWITCH-HAND OPERATED				
SH01	SWITCH-208/240VAC	W7F5JLV	09N050	TOGSW SPDT NO OFF 10A250V	CONTROL BOX
SHD	SWITCH-ALTERNATE DRAIN	W7F5JDR	09N405M211	SWASS M2W 1NO+INC	MOUNT ONMACH
SHD	SWITCH-ALTERNATE DRAIN	W7F5JS+D	09N405M211	SWASS M2W 1NO+INC	MOUNT ONMACH
SHDO	SWITCH-UNLATCH DOOR	W7F5JS+A	09N405PB10	SWASS PBBK 1NO	SWITCH PANEL
SHDO	SWITCH-UNLATCH DOOR	W7F5JS+B	09N405PB10	SWASS PBBK 1NO	SWITCH PANEL
SHDO	SWITCH-UNLATCH DOOR	W7F5JS+C	09N405PB10	SWASS PBBK 1NO	SWITCH PANEL
SHDO	SWITCH-UNLATCH DOOR	W7F5JS+D	09N405PB10	SWASS PBBK 1NO	SWITCH PANEL
SHDO	SWITCH-UNLATCH DOOR	W7F5JS+E	09N405PB10	SWASS PBBK 1NO	SWITCH PANEL
SHDO	SWITCH-UNLATCH DOOR	W7F5JS+F	09N405PB10	SWASS PBBK 1NO	SWITCH PANEL
SHDR	SWITCH-UNLATCH DOOR	W7F5JS+C	09N405PB10	SWASS PBBK 1NO	SWITCH PANEL
SHDR	SWITCH-UNLATCH DOOR	W7F5JS+D	09N405PB10	SWASS PBBK 1NO	SWITCH PANEL
SHES	SWITCH-EMERGENCY STOP	W7F5JS+A	09N505	SW ASSY EMER STOP	SWITCH PANEL
SHES	SWITCH-EMERGENCY STOP	W7F5JS+B	09N505	SW ASSY EMER STOP	SWITCH PANEL
SHES	SWITCH-EMERGENCY STOP	W7F5JS+C	09N505	SW ASSY EMER STOP	SWITCH PANEL
SHES	SWITCH-EMERGENCY STOP	W7F5JS+D	09N505	SW ASSY EMER STOP	SWITCH PANEL
SHES	SWITCH-EMERGENCY STOP	W7F5JS+E	09N505	SW ASSY EMER STOP	SWITCH PANEL
SHES	SWITCH-EMERGENCY STOP	W7F5JS+F	09N505	SW ASSY EMER STOP	SWITCH PANEL
SHFR	SWITCH-FRONT/REAR SELECTOR	W7F5JRH	09N405S320	SWASS S3W 2NO	SWITCH PANEL
SHNX	SWITCH-NEXT SIGNAL CANCEL30"	W7F5JIA	09R002BK	CAP-PUSHBUTTON BLK #CAP16-3PBK	SWITCH PANEL
SHNX	SWITCH-NEXT SIGNAL CANCEL 36",42",48"	W7F5JIA	09N405PY10	SWASS PB YELLOW INO	SWITCH PANEL
SHPS	SWITCH-PROGRAM SELECT 30"	W7F5JIA	09R002BK	CAP-PUSHBUTTON BLK #CAP16-3PBK	SWITCH PANEL
SHPS	SWITCH-PROGRAM SELECT 36",42",48"	W7F5JIA	09N405PB10	SWASS PBBK 1NO	SWITCH PANEL
SHS+	SWITCH-START 30"	W7F5JIA	09R002GR	CAP-PUSHBUTTON GRN #CAP16-3PGN	SWITCH PANEL
SHS+	SWITCH-START 36",42",48"	W7F5JIA	09N405PG10	SWASS PBGN 1NO	SWITCH PANEL
SHSL	SWITCH-SCROLL 30"	W7F5JIA	09R002BK	CAP-PUSHBUTTON BLK #CAP16-3PBK	SWITCH PANEL
SHSL	SWITCH-SCROLL 36",42",48"	W7F5JIA	09N405PB10	SWASS PBBK 1NO	SWITCH PANEL
SHSMA	SWITCH-MASTER	W7F5JS+D	09N405M240	SWASS M2W 2NO	SWITCH PANEL
SHSMA	SWITCH-MASTER	W7F5JS+E	09N405M240	SWASS M2W 2NO	SWITCH PANEL
SHSMA	SWITCH-MASTER	W7F5JS+F	09N405M240	SWASS M2W 2NO	SWITCH PANEL
SHSO	SWITCH-TERMINATE 30"	W7F5JIA	09R019	MICRO SWITCH SPDT KEYED	SWITCH PANEL
SHSO	SWITCH-TERMINATE 36",42",48"	W7F5JIA	09N405PB10	SWASS PBBK 1NO	SWITCH PANEL
SHU	SWITCH-UP/DOWN	W7F5JRH	09N405S320	SWASS S3W 2NO	SWITCH PANEL

# COMPONENT PARTS LIST

W7F5JPL/2002384N

<u>COMPONENT</u>	<u>FUNCTION OF THIS</u>	<u>WHERE TO FIND</u>	<u>MILNOR P/N</u>	<u>DESCRIPTION</u>	<u>LOCATION</u>
<u>NUMBER</u>	<u>COMPONENT NUMBER</u>	<u>THIS COMPONENT</u>			
SHWDO	SWITCH-HYDRAULIC DOOR OPEN/CLOSED	W7F5JHD	09N405S320	SWASS S3W 2NO	SWITCH PANEL
SHWJ	SWITCH-JOG	W7F5JVE	09N405S310	SWASS S3W 1NO	SWITCH PANEL
SK	>>SWITCH-KEYLOCK				
SKMO	SWITCH-AUTO/MANUAL	W7F5JIA	09N127C	KEYSW SPST 7A120VAC SCREW TERM	SWITCH PANEL
SKPR	SWITCH-RUN/PROGRAM	W7F5JIA	09N127C	KEYSW SPST 7A120VAC SCREW TERM	SWITCH PANEL
SM	>>SWITCH-MECHANICAL OPERATED				
SMD	SWITCH-DOOR CLOSED	W7F5JS+A	09R014A	MINI-SW SPDT STAKON #V15G1C26K	DOOR LTCH BX
SMD	SWITCH-DOOR CLOSED	W7F5JS+B	09R014A	MINI-SW SPDT STAKON #V15G1C26K	DOOR LTCH BX
SMD	SWITCH-DOOR CLOSED	W7F5JS+C	09R014A	MINI-SW SPDT STAKON #V15G1C26K	DOOR LTCH BX
SMD	SWITCH-DOOR CLOSED	W7F5JS+D	09R014A	MINI-SW SPDT STAKON #V15G1C26K	DOOR LTCH BX
SMDE	SWITCH-DOOR CLOSED #2	W7F5JS+C	09R012	MICSW SPDT PAINTED BZE6-RN 01	SHELL FRONT
SMDE	SWITCH-DOOR CLOSED #2	W7F5JS+D	09R012	MINI-SW SPDT STAKON #V15G1C26K	SHELL FRONT
SMDE	SWITCH-DOOR CLOSED #2	W7F5JS+E	09RM01212S	CAPSW 12' 180DEG ROLLER SILVER	SHELL FRONT
SMDE	SWITCH-DOOR CLOSED #2	W7F5JS+F	09RM01212S	CAPSW 12' 180DEG ROLLER SILVER	SHELL FRONT
SMEX	SWITCH-EXCURSION	W7F5JIA	09R021	MICRO SWITCH SPDT SENSING	RG SIDE OF BOX
SP	>>SWITCH-PRESSURE OPERATED				
SPBP	PRESSURE SW-BEARING SEAL	W7F5JIA	09N082B05	PRESSW NASON CLOSE @ 5 LB	AIR VALVE BX
SPBS	PRESSURE SW-BRAKE	W7F5JIA	09N082A	PRESSW NASON CLOSE @ 62 LB.	AIR VALVE BX
SPD	PRESSURE SW-DOOR SEAL	W7F5JS+C	09N082B10	PRESSW NASON CLOSED @ 10 LB	VALVE BOX
SPD	PRESSURE SW-DOOR SEAL	W7F5JS+D	09N082B10	PRESSW NASON CLOSED @ 10 LB	VALVE BOX
SPD	PRESSURE SW-DOOR SEAL	W7F5JS+E	09N082B10	PRESSW NASON CLOSED @ 10 LB	VALVE BOX
SPD	PRESSURE SW-DOOR SEAL	W7F5JS+F	09N082B10	PRESSW NASON CLOSED @ 10 LB	VALVE BOX
SPLH	PRESSURE SW-HIGH WATER LEVEL	W7F5JIA	09N086A	PRESS SWITCH EATON #738-761	MOUNT ONMACH
SPLL	PRESSURE SW-LOW WATER LEVEL	W7F5JIA	09N086A	PRESS SWITCH EATON #738-761	MOUNT ONMACH
VE	>>VALVE-ELECTRIC OPERATED				
VEAD	VALVE-ALTERNATE DRAIN	W7F5JDR	96R301A71	1/8" AIR PILOT 3W NC 240V50/60	VALVE BOX
VEBP	VALVE-BEARING PRESSURE	W7F5JS+E	96TBC2BA71	1/4" N/C 2WAY 220V50/60C VALVE	VALVE BOX
VEBP	VALVE-BEARING PRESSURE	W7F5JS+F	96TBC2BA71	1/4" N/C 2WAY 220V50/60C VALVE	VALVE BOX
VEBR	VALVE BRAKE RELAEASE	W7F5JS+E	96R301A71	1/8" AIRPILOT 3W NC 240V50/60	VALVE BOX
VEBR	VALVE BRAKE RELAEASE	W7F5JS+F	96R301A71	1/8" AIRPILOT 3W NC 240V50/60	VALVE BOX
VEC1	VALVE-FLUSH CHEM.POCKET 1	W7F5JCF	96P013G71	3/4" 2WAYPLAS-VAL 240V/60C	SUPPLY INJEC
VEC2	VALVE-FLUSH CHEM.POCKET 2	W7F5JCF	96P013G71	3/4" 2WAYPLAS-VAL 240V/60C	SUPPLY INJEC
VEC3	VALVE-FLUSH CHEM.POCKET 3	W7F5JCF	96P013G71	3/4" 2WAYPLAS-VAL 240V/60C	SUPPLY INJEC

# COMPONENT PARTS LIST

W7F5JPL/2002384N

<u>COMPONENT</u>	<u>FUNCTION OF THIS</u>	<u>WHERE TO FIND</u>	<u>MILNOR P/N</u>	<u>DESCRIPTION</u>	<u>LOCATION</u>
<u>NUMBER</u>	<u>COMPONENT NUMBER</u>	<u>THIS COMPONENT</u>			
VEC4	VALVE-FLUSH CHEM:POCKET 4	W7F5JCF	96P013G71	3/4" 2WAYPLAS-VAL 240V/60C	SUPPLY INJEC
VEC5	VALVE-FLUSH CHEM:POCKET 5	W7F5JCF	96P013G71	3/4" 2WAYPLAS-VAL 240V/60C	SUPPLY INJEC
VED	VALVE-HOUSE DOWN	W7F5JRH	96R301A71	1/8" AIRPILOT 3W NC 240V50/60	AIR VALVE BX
VEDL	VALVE-DOOR UNLATCH	W7F5JS+C	96R301A71	1/8" AIRPILOT 3W NC 240V50/60	AIR VALVE BX
VEDL	VALVE-DOOR UNLATCH	W7F5JS+D	96R301A71	1/8" AIRPILOT 3W NC 240V50/60	AIR VALVE BX
VEDL	VALVE-DOOR UNLATCH	W7F5JS+E	96R301A71	1/8" AIRPILOT 3W NC 240V50/60	AIR VALVE BX
VEDL	VALVE-DOOR UNLATCH	W7F5JS+F	96R301A71	1/8" AIRPILOT 3W NC 240V50/60	AIR VALVE BX
VEDRR	VALVE-REUSE DRAIN	W7F5JEV	MESSAGE EW	THESE PARTS RECORDED ELSEWHERE	REAR OF MACH
VEDRR	VALVE-REUSE DRAIN	W7F5JEVS	MESSAGE EW	THESE PARTS RECORDED ELSEWHERE	REAR OF MACH
VEF	VALVE-TILT FRONT	W7F5JRH	96R301A71	1/8" AIRPILOT 3W NC 240V50/60	AIR VALVE BX
VEFL	VALVE-COOLDOWN	W7F5JEV	96TDC2AA71	1/2" N/C 2WAY 240V50/60C VALVE	REAR OF MACH
VEFL	VA:VE-COOLDOWN	W7F5JEVS	96TDC2AA71	1/2" N/C 2WAY 240V50/60C VALVE	REAR OF MACH
VEHDC	VALVE-HYDRAULIC DOOR CLOSED	W7F5JHD	96RHT706E7	VLVPARKER 220V50/240V60 7GPM	HYDRAULIC UNIT
VEHDL	VALVE-TILT DOOR UNLATCH	W7F5JS+E	96R301A71	1/8" AIRPILOT 3W NC 240V50/60	AIR VALVE BX
VEHDO	VALVE-HYDRAULIC DOOR OPEN	W7F5JHD	96RHT706E7	VLVPARKER 220V50/240V60 7GPM	HYDRAULIC UNIT
VEPPO	VALVE-DOOR SEAL	W7F5JS+C	96R302A71	1/8" AIRPILOT 3W NO 240V50/60	VALVE BOX
VEPPO	VALVE-DOOR SEAL	W7F5JS+D	96R302A71	1/8" AIRPILOT 3W NO 240V50/60	VALVE BOX
VEPPO	VALVE-DOOR SEAL	W7F5JS+E	96R302A71	1/8" AIRPILOT 3W NO 240V50/60	VALVE BOX
VEPPO	VALVE-DOOR SEAL	W7F5JS+F	96R302A71	1/8" AIRPILOT 3W NO 240V50/60	VALVE BOX
VER	VALVE-TILT REAR	W7F5JRH	96R301A71	1/8" AIRPILOT 3W NC 240V50/60	AIR VALVE BX
VESTM	VALVE-STEAM	W7F5JEV	96R301A71	1/8" AIRPILOT 3W NC 240V50/60	VALVE BOX
VESTM	VALVE-STEAM	W7F5JEVS	96R301A71	1/8" AIRPILOT 3W NC 240V50/60	VALVE BOX
VEU	VALVE-HOUSE UP	W7F5JRH	96R301A71	1/8" AIRPILOT 3W NC 240V50/60	AIR VALVE BX
VEWC	VALVE-COLD WATER 30"	W7F5JEV	96P016A71	1/2DUOVAL 240VHAYS4-3108-240	REAR OF MACH
VEWC	VALVE-COLD WATER 36", 42", 48"	W7F5JEV	96R301A71	1/8" AIRPILOT 3W NC 240V50/60	VALVE BOX
VEWC	VALVE-COLD WATER 30"	W7F5JEVS	96P016A71	1/2DUOVAL 240VHAYS4-3108-240	REAR OF MACH
VEWC	VALVE-COLD WATER 36", 42", 48"	W7F5JEVS	96R301A71	1/8" AIRPILOT 3W NC 240V50/60	VALVE BOX
VEWH	VALVE-HOT WATER 30"	W7F5JEV	96P016A71	1/2DUOVAL 240VHAYS4-3108-240	REAR OF MACH
VEWH	VALVE-HOT WATER 36", 42", 48"	W7F5JEV	96R301A71	1/8" AIRPILOT 3W NC 240V50/60	VALVE BOX
VEWH	VALVE-HOT WATER 30"	W7F5JEVS	96P016A71	1/2DUOVAL 240VHAYS4-3108-240	REAR OF MACH
VEWH	VALVE-HOT WATER 36", 42", 48"	W7F5JEVS	96R301A71	1/8" AIRPILOT 3W NC 240V50/60	VALVE BOX
VEVWX	VALVE-EXTRA WATER 30"	W7F5JEV	96P053A71	3/4"VAL 240VHAYS#6-21101S-240	REAR OF MACH
VEVWX	VALVE-EXTRA WATER 36", 42", 48"	W7F5JEV	96R301A71	1/8" AIRPILOT 3W NC 240V50/60	VALVE BOX

# COMPONENT PARTS LIST

<u>COMPONENT</u> <u>NUMBER</u>	<u>FUNCTION OF THIS</u> <u>COMPONENT NUMBER</u>	<u>WHERE TO FIND</u> <u>THIS COMPONENT</u>	<u>MILNOR P/N</u>	<u>DESCRIPTION</u>	<u>LOCATION</u>
VEWVX	VALVE-EXTRA WATER 30"	W7F5JEVS	96P053A71	3/4"VAL 240VHAYS#6-21101S-240	REAR OF MACH
VEWVX	VALVE-EXTRA WATER 36", 42", 48"	W7F5JEVS	96R301A71	1/8" AIRPILOT 3W NC 240V50/60	VALVE BOX

# **PELLERIN MILNOR CORPORATION**

## **LIMITED STANDARD WARRANTY**

We warrant to the original purchaser that MILNOR machines including electronic hardware/software (hereafter referred to as "equipment"), will be free from defects in material and workmanship for a period of one year from the date of shipment from our factory with no operating hour limitation. This warranty is contingent upon the equipment being installed, operated and serviced as specified in the operating manual supplied with the equipment, and operated under normal conditions by competent operators.

Providing we receive written notification of a warranted defect within 30 days of its discovery, we will – at our option – repair or replace the defective part or parts, FOB our factory. We retain the right to require inspection of the parts claimed defective in our factory prior to repairing or replacing same. We will not be responsible, or in any way liable, for unauthorized repairs or service to our equipment, and this warranty shall be void if the equipment is repaired or altered in any way without MILNOR's written consent.

Parts which require routine replacement due to normal wear – such as gaskets, contact points, brake and clutch linings and similar parts – are not covered by this warranty, nor are parts damaged by exposure to weather or to chemicals.

We reserve the right to make changes in the design and/or construction of our equipment (including purchased components) without obligation to change any equipment previously supplied.

ANY SALE OR FURNISHING OF ANY EQUIPMENT BY MILNOR IS MADE ONLY UPON THE EXPRESS UNDERSTANDING THAT MILNOR MAKES NO EXPRESSED OR IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR USE OR PURPOSE. MILNOR WILL NOT BE RESPONSIBLE FOR ANY COSTS OR DAMAGES ACTUALLY INCURRED OR REQUIRED AS A RESULT OF: THE FAILURE OF ANY OTHER PERSON OR ENTITY TO PERFORM ITS RESPONSIBILITIES, FIRE OR OTHER HAZARD, ACCIDENT, IMPROPER STORAGE, MISUSE, NEGLIGENCE, POWER OR ENVIRONMENTAL CONTROL MALFUNCTIONS, DAMAGE FROM LIQUIDS, OR ANY OTHER CAUSE BEYOND THE NORMAL RANGE OF USE. REGARDLESS OF HOW CAUSED, IN NO EVENT SHALL MILNOR BE LIABLE FOR SPECIAL, INDIRECT, PUNITIVE, LIQUIDATED, OR CONSEQUENTIAL COSTS OR DAMAGES, OR ANY COSTS OR DAMAGES WHATSOEVER WHICH EXCEED THE PRICE PAID TO MILNOR FOR THE EQUIPMENT IT SELLS OR FURNISHES.

WE NEITHER ASSUME, NOR AUTHORIZE ANY EMPLOYEE OR OTHER PERSON TO ASSUME FOR US, ANY OTHER RESPONSIBILITY AND/OR LIABILITY IN CONNECTION WITH THE SALE OR FURNISHING OF OUR EQUIPMENT TO ANY BUYER.

## **How to order repair parts**

Repair parts may be ordered either from the authorized dealer who sold you this machine, or directly from the MILNOR factory. In most cases, your dealer will have these parts in stock.

When ordering parts, please be sure to give us the following information:

1. Model and serial number of the machine for which the parts are required
2. Part number
3. Name of the part
4. Quantity needed
5. Method of shipment desired
6. In correspondence regarding motors or electrical controls, please include all nameplate data, including wiring diagram number and the make or manufacturer of the motor or controls.

All parts will be shipped C.O.D. transportation charges collect only.

## **Please read this manual**

It is strongly recommended that you read the installation and operating manual before attempting to install or operate your machine. We suggest that this manual be kept in your business office so that it will not become lost.

### **PELLERIN MILNOR CORPORATION**

P.O. BOX 400, KENNER, LA., 70063-0400, U.S.A.

FAX: Administration 504/468-9307, Engineering 504/469-1849, Service 504/469-9777

**BMP720097R**  
**72332A**



# HOW TO USE MILNOR<sup>®</sup> ELECTRICAL SCHEMATICS

Milnor<sup>®</sup> electrical schematic manuals contain a *table of contents/component list*, a set of *schematic drawings*, and a *signal routing table*. These documents are cross referenced and must be used together.

The *table of contents/components list shows*, for every component on every schematic in the manual, the *component item number*(explained in detail below), statement of function, parent schematic number, part number, description and electric box location.

The *schematic drawings* use symbols for each electro-mechanical component, and indicate the function of each. Integrated circuits are not shown, but the function of each microprocessor input and output is stated. Certain electrical components not pertinent to circuit logic, such as wire connectors, are not represented on the schematic but are shown in the signal routing table. **Most machines (manuals) require several schematics to describe the complete control system including all available options. However, this means that there are usually some schematics that do not apply to a specific machine.** Each schematic is devoted to circuits with common functions (e.g., microprocessor inputs, motor contactors). Schematics appear in the manual in alphanumeric order.

The *signal routing table* assists in determining wire routing. It identifies each group of conductors in a control system connected with zero resistance. Groups are identified by a two or three character wire number. Each wire belonging to such a group of conductors has that group's wire number printed along the wire insulation. Although there are some exceptions, generally each group of conductors within the entire electrical system for a machine family has its own unique wire number. The signal routing table for the manual lists each wire alphanumerically by wire number and each component/pin number to which *the wire is attached*, including those not shown on the schematics (e.g., wire connectors). Milnor<sup>®</sup> document MST50202BE HOW TO USE THE SIGNAL ROUTING TABLE provides more information.

## Component Prefix Classifications and Descriptions

The *component item numbers* consist of up to six characters and appear as part of a component's symbol on the schematic. The first two characters indicate the general class of component and the remaining characters are a mnemonic for the function. For example, CD is the code for all time delay relays and SR stands for safety reset. Thus, CDSR is a time delay relay that serves as a safety reset.

The following are descriptions of the electrical components used in Milnor<sup>®</sup> machines. Descriptions are in alphabetical order of the component class code (two character prefix).

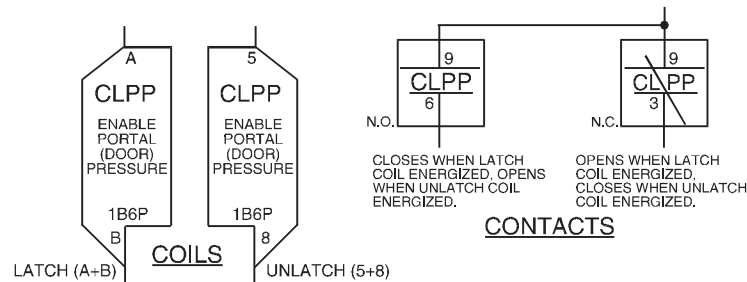
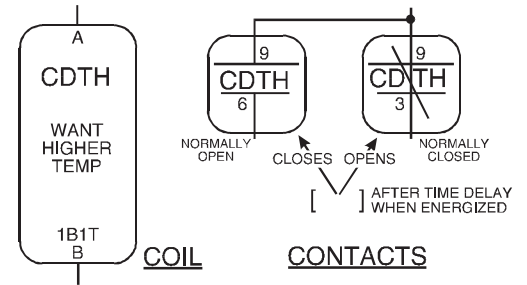
**BA=Printed Circuit Board** Insulating substrate on which a thin pattern of copper conductors has been formed to connect discreet electronic components also mounted on the board.

**CB=Circuit Breaker** Automatic switch that opens an electric circuit in abnormal current conditions (e.g., an overload).



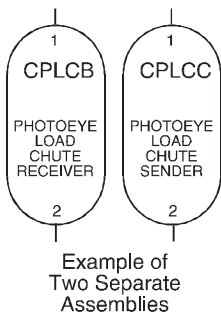
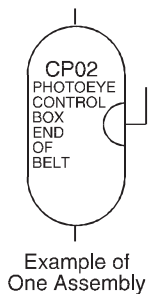
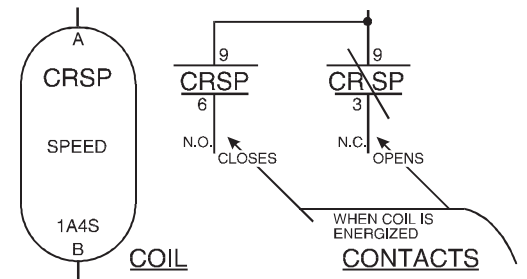


**CD=Control, Time Delay Relay** A relay whose contacts switch only after a fixed or adjustable delay, once voltage has been applied to its coil. The contacts switch back to normal (de-energized state) immediately when the voltage is removed.



**CL=Control, Latch Relay** A relay which latches in an energized or set position when operated by one coil (the *latch/set coil*). The relay stays latched, even though coil voltage is removed. The relay releases or unlatches when voltage is applied to a second coil, (the *unlatch/reset coil*).

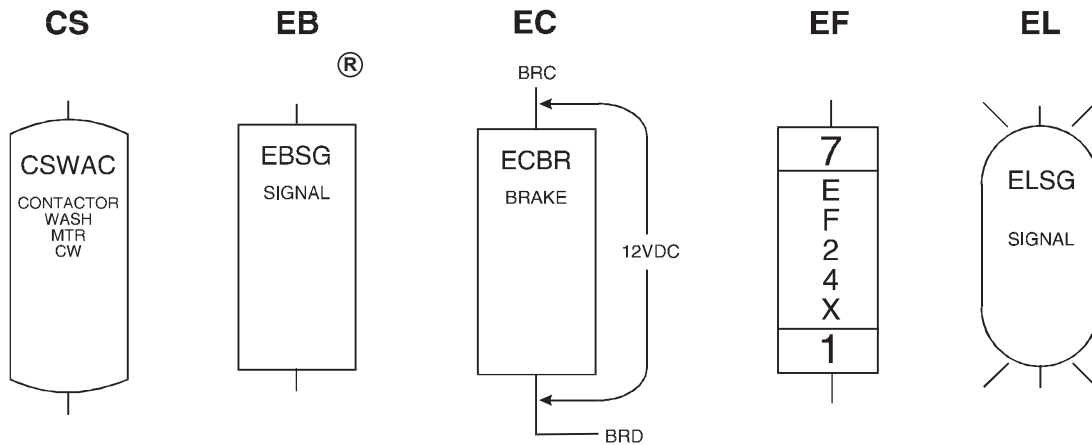
**CR=Control, Relay** A relay whose contacts switch immediately when voltage is applied to its coil and revert to normal when the voltage is removed.



**CP=Control, Photo-Eyes** Photo-eyes sense the presence of an object without direct physical contact. Photo-eyes consist of a *transmitter, receiver, and output module*. These components may be housed in one assembly with the transmitter bouncing light off of a reflector to the receiver, or these components can be housed in *two separate assemblies* with the transmitter pointed directly at the receiver.

The photo-eye can be set to turn on its output either when the light beam becomes blocked (dark operate) or when it becomes unblocked (light operate).

## HOW TO USE MILNOR® ELECTRICAL SCHEMATICS



**CS=Control, Contactor/Motor Starter** A relay capable of handling heavier electrical loads, usually a motor.

**EB=Electric Buzzer** An audible signaling device.

**EC=Electric Clutch** A clutch consists of a coil and a rotor. The rotor has two separate rotating plates. These plates are free to rotate independent of each other until the coil is energized. Once energized the two plates turn as one.

**ED=Electronic Display** A visual presentation of data, such as an LCD (liquid crystal display), LED (light emitting diode) display, or VFD (vacuum florescent display).

**EF=Electric Fuse** A fuse is an over-current safety device with a circuit opening fusible member which is heated and severed by the passage of over-current through it.

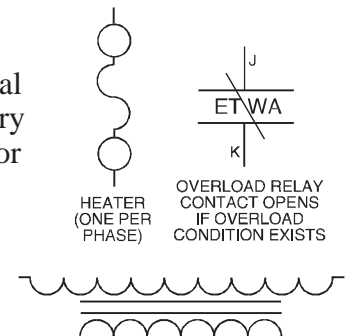
**EL=Electric Light Indicator** lights may be either incandescent or fluorescent.

**EM=Electro Magnet Solenoid** A device consisting of a core surrounded by a wire coil through which an electric current is passed. While current is flowing, iron is attracted to the core (e.g., a pinch tube drain valve solenoid).

**ES=Electronic Power Supply** A device that converts AC (alternating current) to filtered and regulated DC (direct current). The input voltage to the power supply is usually 120 or 240 VAC. The output is +5, +12, and -12 VDC.

**ET=Thermal Overload** A safety device designed to protect a motor. A thermal overload consists of an overload block, heaters, and an auxiliary contact. The auxiliary contact is normally installed in a safety (three-wire) circuit that stops power to the motor contactor coil when a motor overload occurs.

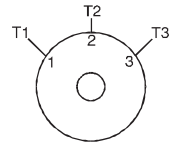
**EX=Electrical Transformer** A device that transfers electrical energy from one isolated circuit to another, often raising or lowering the voltage in the process.



**KB=Keyboard** Device similar to a typewriter for making entries to a computer.

**MN=Electronic Monitor (CRT)** A cathode ray tube used for visual presentation of data.

**MR=Motors** Electro-mechanical device that converts electrical energy into mechanical energy.

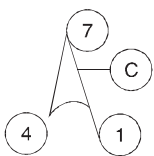
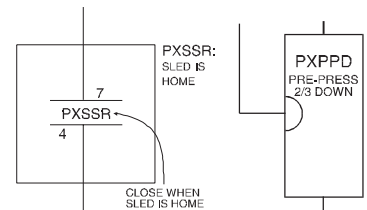


**MV=Motor (Variable Speed) Inverter** To vary the speed of an AC motor, the volts to frequency ratio must be kept constant. The motor will overheat if this ratio is not maintained.

The motor variable speed inverter converts three phase AC to DC. The inverter then uses this DC voltage to generate AC at the proper voltage and frequency for the commanded speed.

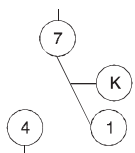
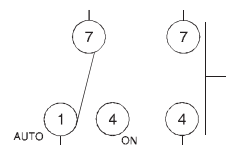
**NOTE: Switch symbols used in the schematics and described below always depict the switch in its unactuated state.**

**PX=Proximity Switch** A device which reacts to the proximity of an target without physical contact or connection. The actuator or target causes a change in the inductance of the proximity switch which causes the switch to operate. Proximity switches can be two-wire (AC) or three-wire (DC) devices.



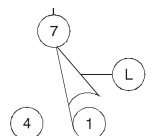
**SC=Switch, Cam Operated** A switch in which the electrical contacts are opened and/or closed by the mechanical action of a cam(s). Applications include 35-50 pound timer operated machines, autospot, timer reversing motor assembly, and some balancing systems.

**SH=Switch, Hand Operated** A switch that is manually operated (e.g., *Start button*, *Master switch*, etc.).

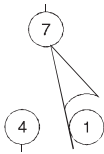


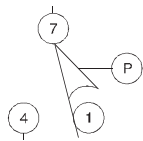
**SK=Switch, Key Lock** A switch that requires a key to operate. This prevents unauthorized personnel from gaining access to certain functions (e.g., the *Program Menu*).

**SL=Switch, Level Operated** A switch connected to a float that causes the switch to open and close as the level changes.

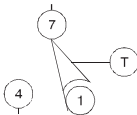


**SM=Switch, Mechanically Operated** A switch that is mechanically operated by a part of or the motion of the machine (e.g., door closed switch, tilt limit switches, etc.)



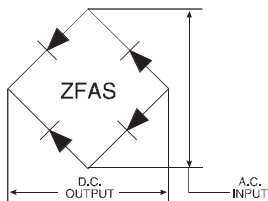
 **SP=Switch, Pressure Operated** A switch consisting of a diaphragm that pushes against a switch actuator.

**ST=Switch, Temperature Operated** A switch that is actuated at a preset temperature (e.g., dryer safety probes) or has adjustable set points (e.g., Motometers or Combistats).



 **TB=Terminal Board** A strip or block for attaching or terminating wires.

**VE=Valve, Electric Operated** A valve operated by an electric coil to control the flow of fluid. The fluid can be air, water or hydraulics.

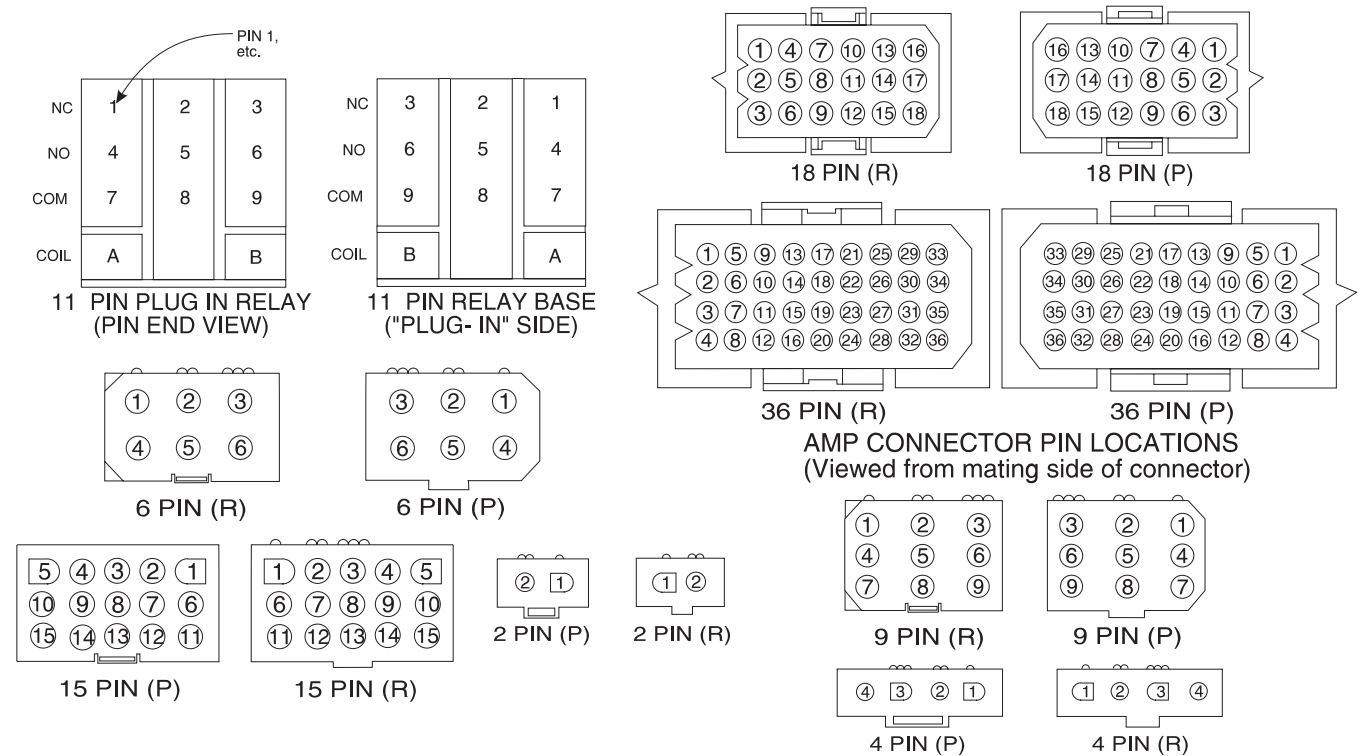


**ZF=Rectifier** A solid state device that converts alternating current to direct current.

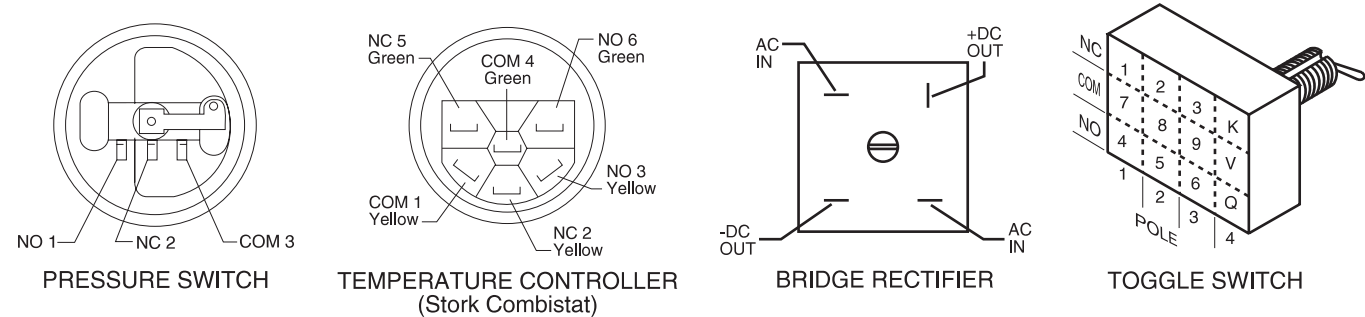
**WC=Wiring Connector** A coupling device for joining two cables or connecting a cable to an electronic circuit or piece of equipment. Connectors are male or female, according to whether they plug into or receive the mating connector.

# Component Terminal Numbering

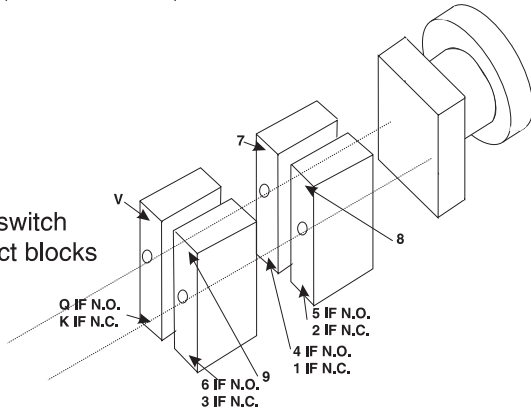
NOTE: Numbers shown usually appear on the component.



MOLEX CONNECTOR PIN LOCATIONS (Viewed from mating side of connector)



Rotary or push button switch with replaceable contact blocks



### Features of Milnor® Electrical Schematics

Document W6DRYGS+A shown on the next page, is part of an actual schematic for the Milnor Gas Dryer. For the purposes of this instruction, the schematic is shown gray and explanations of the items on the schematic are shown black.

The item numbers below correspond to the circled item numbers shown on the drawing.

- ① The first six characters of the *drawing number* (W6DRYG) indicate that this is a *wiring diagram* (W), identify the *generation of controls* (6), and identify the *type of machine* (DRYG=Gas Dryer). These characters appear in the drawing number of every schematic in the set.

The characters following the first six are unique to each drawing. The two characters identified as the *page number* are an abbreviation for the function performed by the depicted circuitry (S+=three-wire circuit) and establish the order in which the schematic occurs in the manual (schematics are arranged in alpha-numeric order in the manual).

Whenever circuitry changes are significant enough to warrant publishing a new schematic drawing, the new drawing number will be the same as the old except for the major revision letter (A in the example).

- ② Included in the drawing title are the class of control system, the title of this circuit, and the circuit voltage.
- ③ Line numbers are provided along the bottom edge of the drawing. These permit service personnel in the field and at the Milnor factory to quickly relate circuit locations when discussing troubleshooting over the phone. Page and line numbers are referenced on the drawing as explained in items five and six below.
- ④ General functions of the circuit or portions thereof are stated across the top edge of the drawing.
- ⑤ Relay contacts show the page and line number on which the relay coil may be found. This is the type of cross referencing most frequently used in troubleshooting.
- ⑥ Relay coils show the page and line number on which its associated contacts are located.
- ⑦ Relay contacts and relay coils show the physical location of the relay.

- ⑧ The designation *MTA* applies to electronic circuit board connections. Typically, a control system will contain several different types of circuit boards and one or more boards of each type. A numerical suffix identifies the board type and a numerical prefix identifies which one of several boards of a given type is being depicted. For example, the designation *1MTA5* identifies this as the first I/O board (8 output, 16 input board) in the control system. As shown on the drawing, a pin number follows the board number, separated by a dash. Thus, *1MTA5-9* is pin 9 on this board. The numerical designations for board types vary from one control system to another. Some of the board types commonly encountered on the Mark II washer-extractor control and their designations are as follows:

MTA1-MTA6 = 8 output, 16 input (8/16) boards.

MTA11-MTA16 = 16 output boards

MTA30-MTA40 = processor boards

MTA41-MTA43 = digital to analog (D/A) boards

MTA51-MTA56 = analog to digital (A/D) boards

The complete listing of the boards utilized in a given control system can be found in the component list for that system.

- ⑨ The wire numbers, as described in the explanation of the signal routing table at the beginning of this section, are shown at appropriate locations on the schematic drawing.
- ⑩ Where diamond symbols appear at the end of a conductor, these are match points for continuing the schematic on another drawing. The page and line number that continues the circuit is printed adjacent to the diamond symbol. Where more than one match point appears on the referenced page, match diamonds containing corresponding letters.

# 4 CIRCUIT FUNCTION

5 THIS INDICATES ON WHICH PAGE (W6DRYGS+) AND LINE NUMBER (08) THE RELAY COIL CAN BE FOUND FOR THIS SET OF CONTACTS.

6 THIS INDICATES ON WHICH SCHEMATIC PAGE AND LINE NUMBER THE RELAY CONTACTS OF THIS COIL (ON LINE 08) ARE LOCATED. (I.E.: W6DRYGS+, LINES 9 & 11)

NORMALLY CLOSED CONTACTS  
7-1 CONTACT → S+09  
8-2 CONTACT → S+11  
9-3 CONTACT → S+11

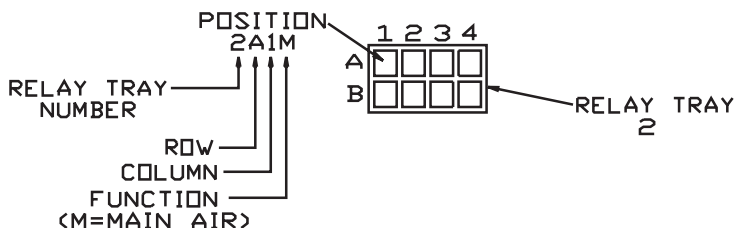
NORMALLY OPEN CONTACTS  
7-4 CONTACT → S+11  
8-5 CONTACT → S+11  
9-6 CONTACT → S+11

INDICATES CONTACT IS NOT USED

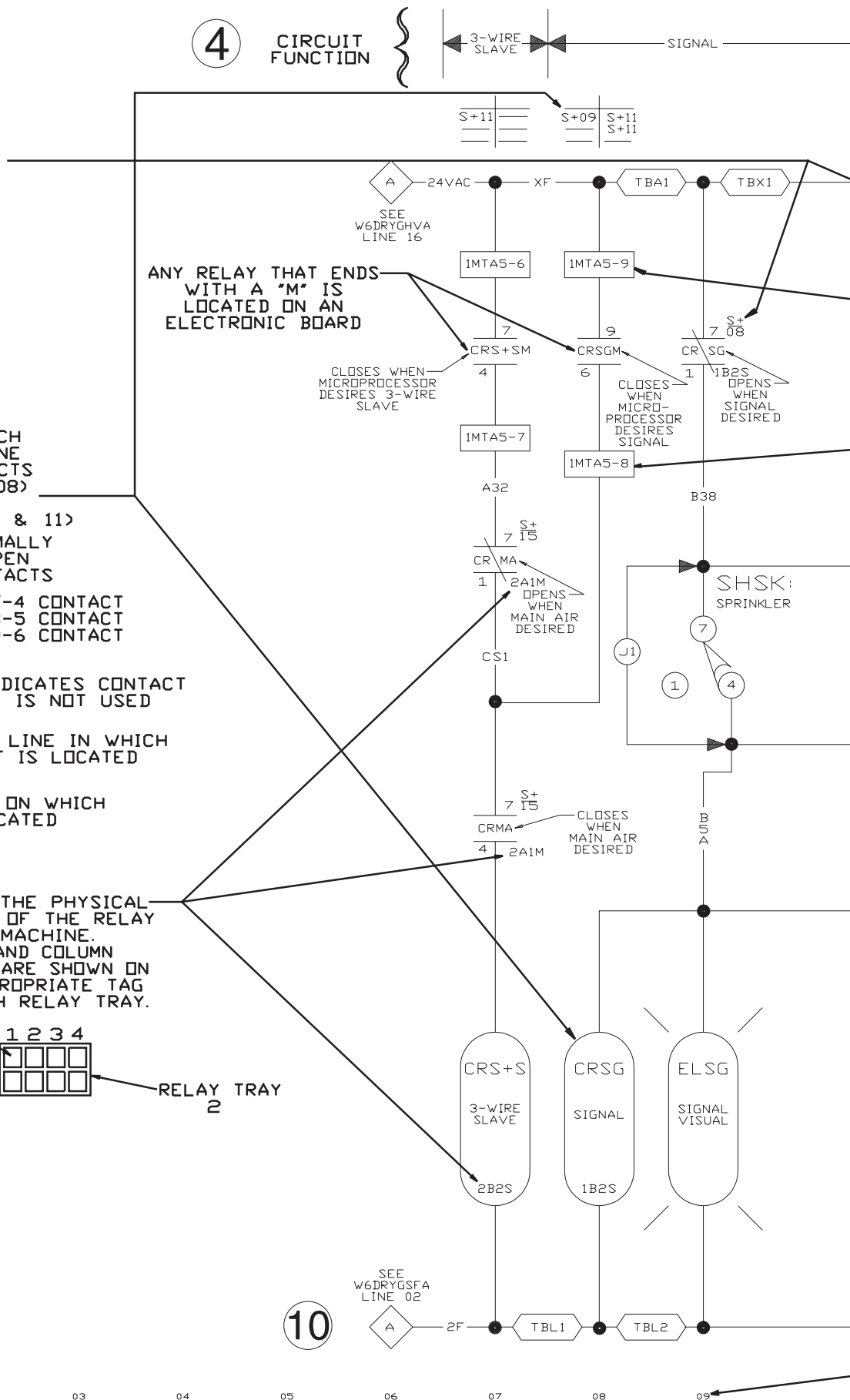
INDICATES LINE IN WHICH CONTACT IS LOCATED

INDICATES DRAWING ON WHICH CONTACT IS LOCATED

7 THIS IS THE PHYSICAL LOCATION OF THE RELAY ON MACHINE. ROW AND COLUMN NUMBERS ARE SHOWN ON THE APPROPRIATE TAG FOR EACH RELAY TRAY.



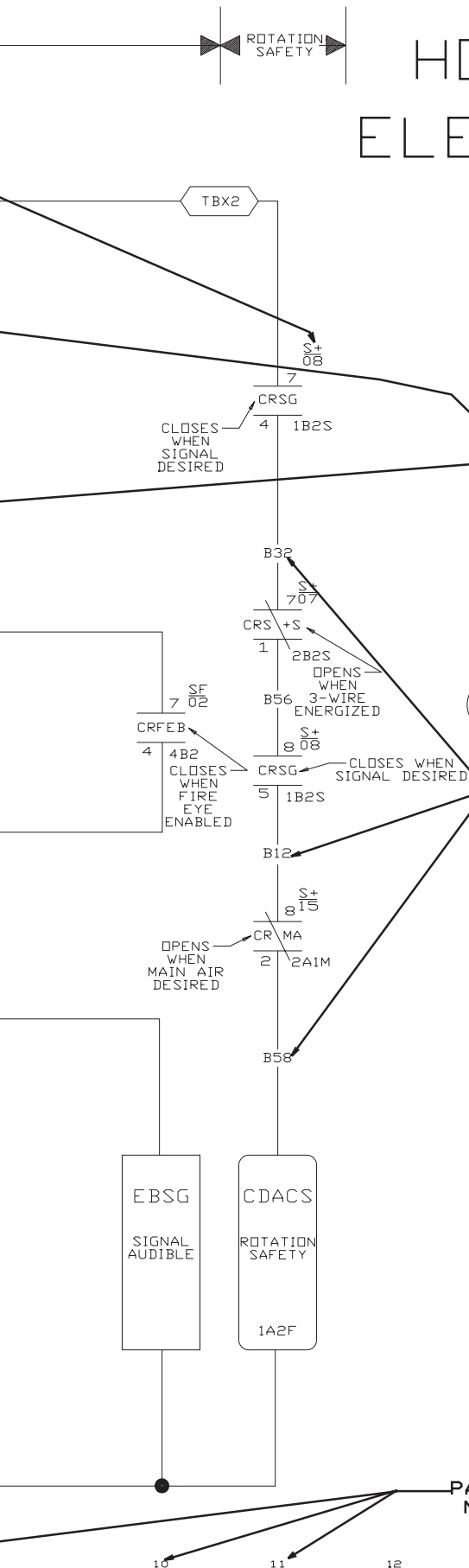
10





# HOW TO READ MILNOR ELECTRICAL SCHEMATICS

W6DRYGS+A  
93226D



8

MASS TERMINATION ASSEMBLY  
MTA DESIGNATION ON BOARD  
1MTA5-9  
PIN NUMBER  
BOARD MTA GROUP DESIGNATION

AN MTA IS A CONNECTION ON AN ELECTRONIC CIRCUIT BOARD. THE NOTES AND THE TAG PAGE CAN LOCATE THE APPROPRIATE BOARD.

9

WIRE IDENTIFICATION MARKING. THIS DESIGNATION IS STAMPED ON THE WIRE EVERY 6." THIS MARKING IS USED IN CONJUNCTION WITH THE SIGNAL ROUTING TABLE.

1

MAJOR REVISION (LETTER)

PAGE NUMBER (S+)

TYPE OF MACHINE (GAS FIRED DRYER)

6TH GENERATION OF CONTROLS

W=WIRING

CLASS OF CONTROL SYSTEM

TITLE OF THIS CIRCUIT

VOLTAGE OF CIRCUIT SHOWN

NOTES:

1. TBL IS LOCATED IN LEFT CONTROL BOX.
2. TBA IS LOCATED IN RIGHT CONTROL BOX.
3. TBX IS LOCATED IN LEFT CONTROL BOX.
4. 1MTA5 IS LOCATED ON BID1 (8 OUTPUT-16 INPUT BOARD).
5. REMOVE (J1) IF DRYER HAS VALVE SET SHUT OPTION.

2

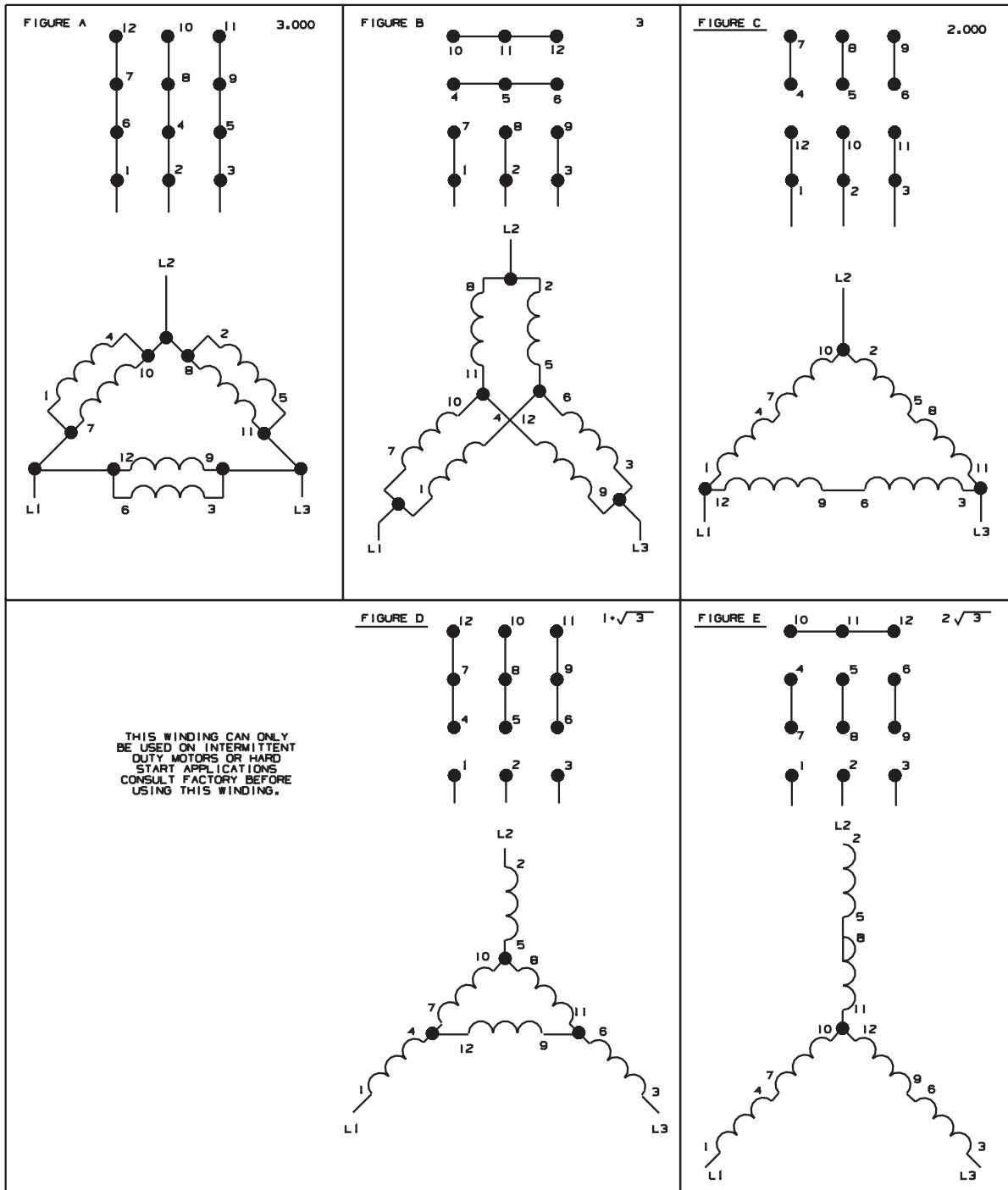
PAGE LINE NUMBERS

3

W6DRYGS+A  
93226D

MICRO 6 SYSTEMS  
SCHEMATIC: 3-WIRE CIRCUIT  
24V1P50HZ/24V1P60HZ  
PELLERIN MILNOR CORPORATION

FIGURE	ELECTRICAL VALUES	SUFFIXES							
		B		H		M		T	
		50HZ	60HZ	50HZ	60HZ	50HZ	60HZ	50HZ	60HZ
A	1,000	208	230			200	220	220	240
B	$\sqrt{3}$			208	240	346	380	380	
C	2,000	416	460	220	240	400	440	440	480
D	$1 + \sqrt{3}$						600		
E	$2\sqrt{3}$			380					



06

07

08

09

10

11

12

13

14

15

16

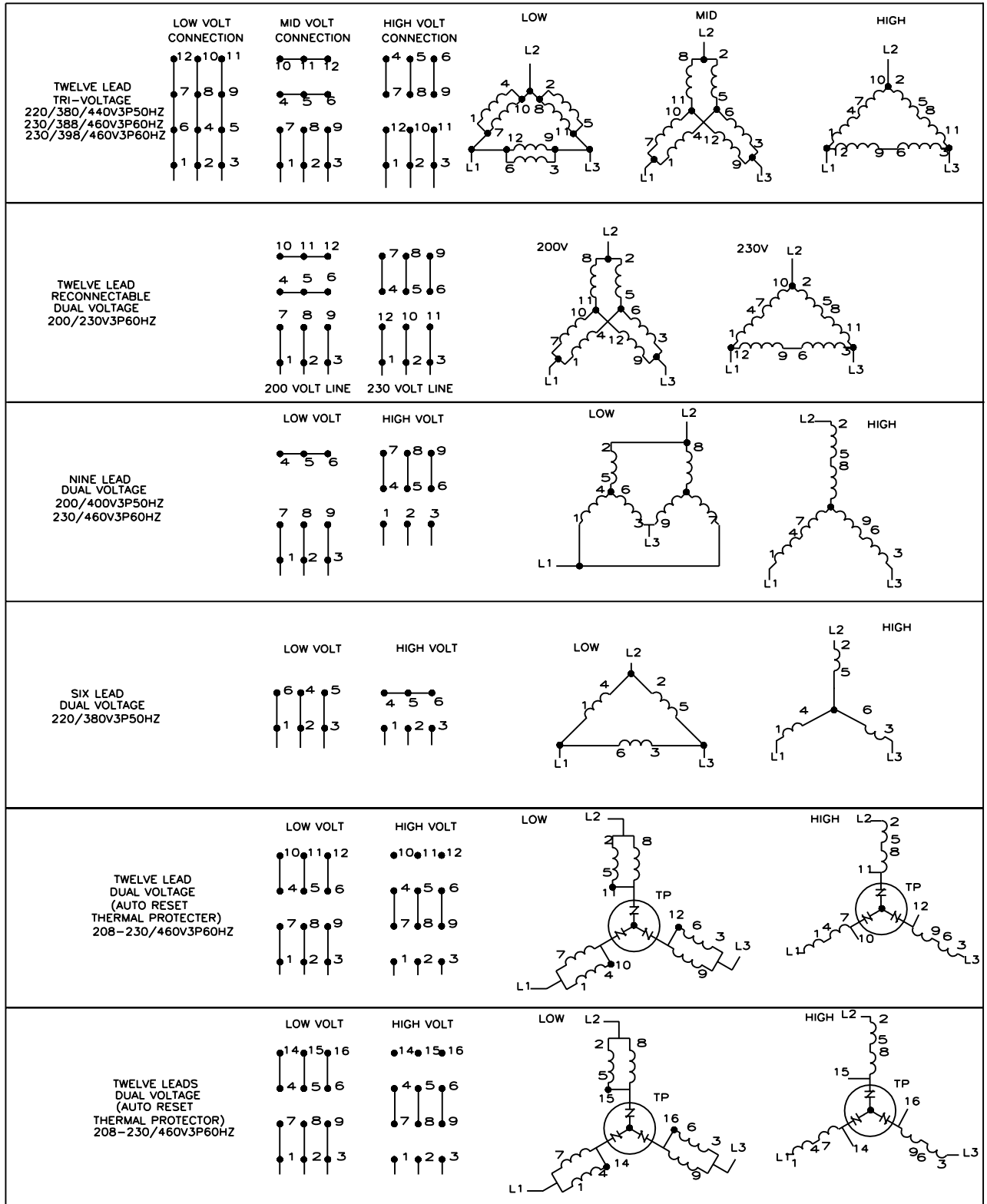
17

# BMP850029

## MOTOR CONNECTION DIAGRAMS

THREE PHASE SINGLE SPEED MOTORS WITH MULTIPLE VOLTAGE RATINGS  
(ONLY FOR MOTOR SUFFIXES LISTED)

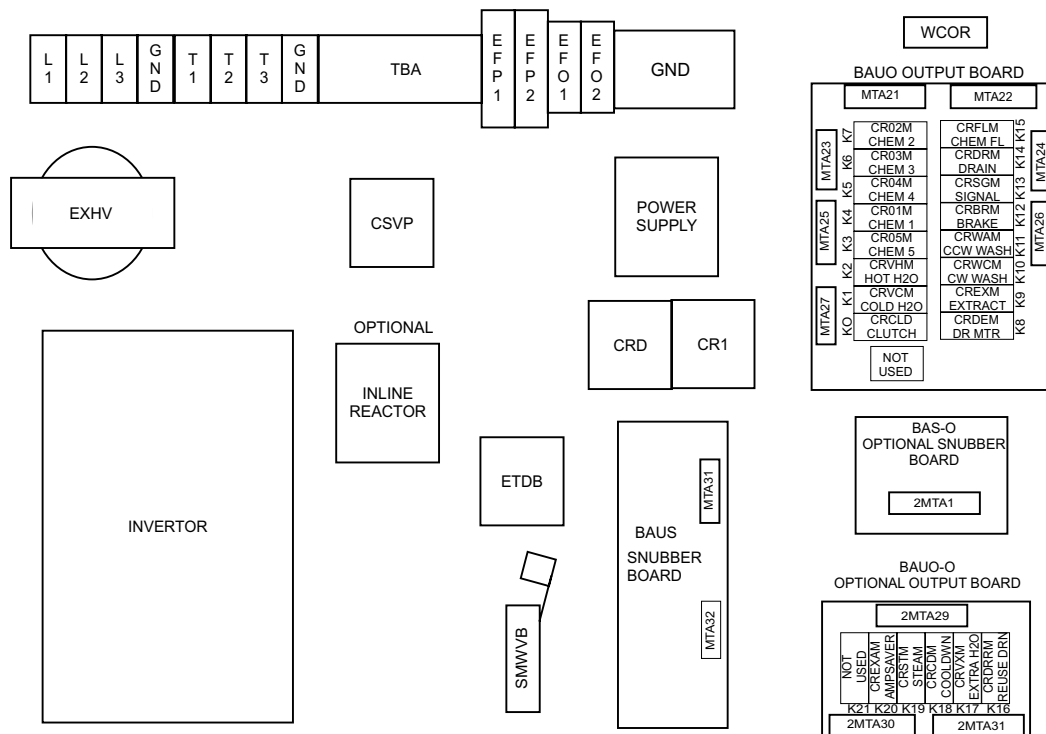
PELLERIN MILNOR CORPORATION



# W80008

THREE PHASE  
MOTOR CONNECTION DIAGRAMS  
SINGLE SPEED MOTORS WITH MULTIPLE VOLTAGE RATINGS  
PELLERIN MILNOR CORPORATION

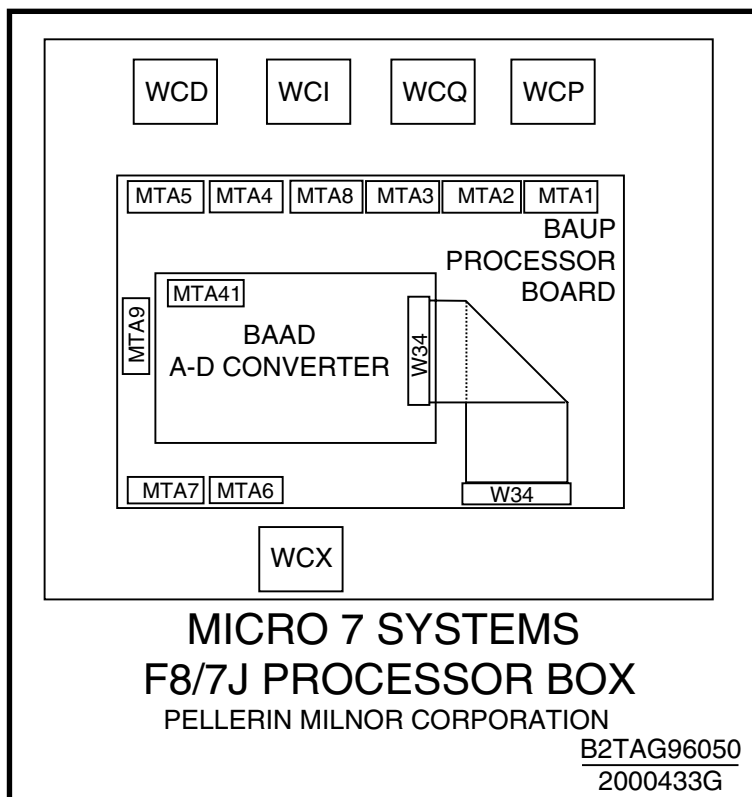
W80008  
2001253A



# MICRO 7 SYSTEMS MARK V CONTROLS 3022F8J CONTROL BOX

PELLERIN MILNOR CORPORATION

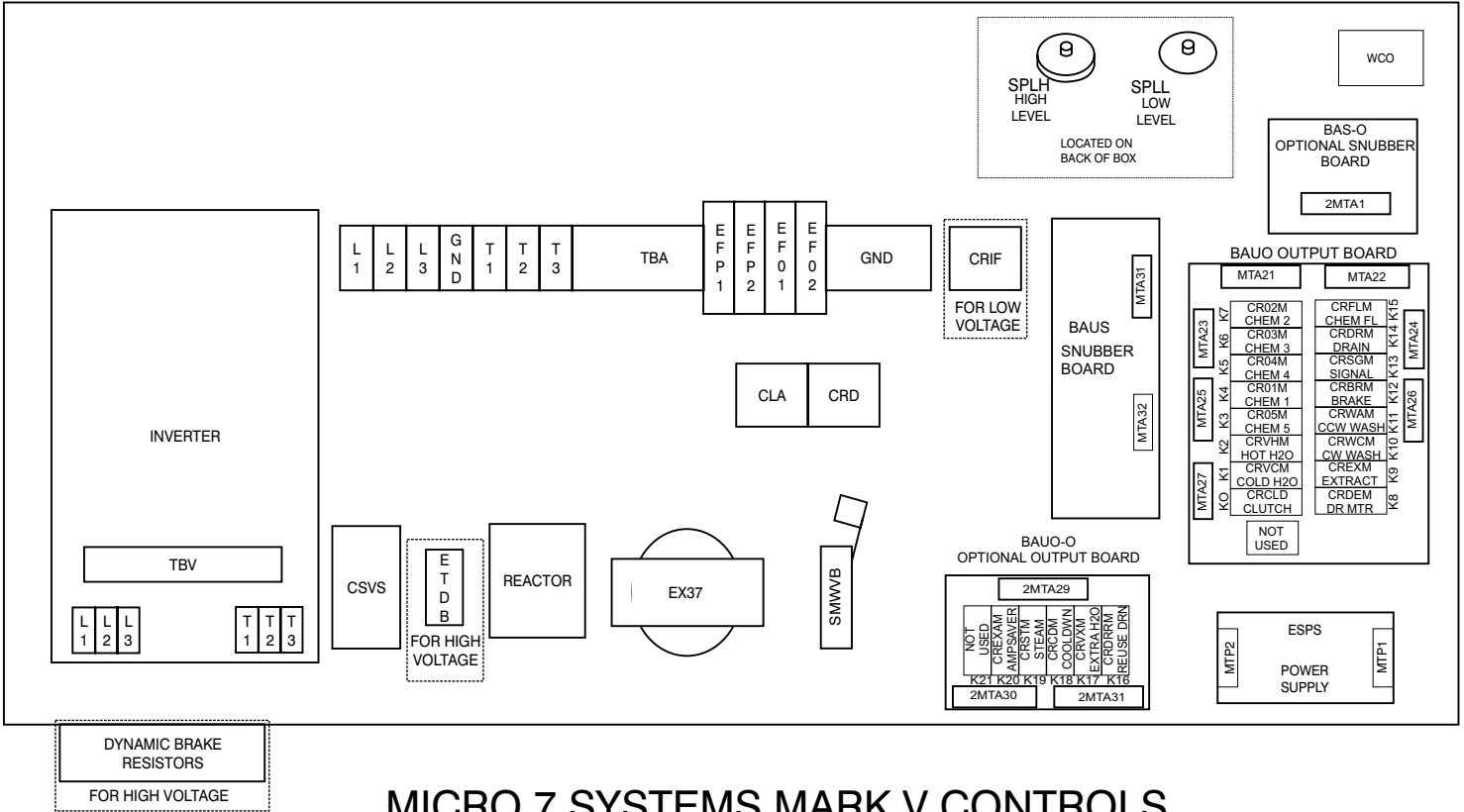
B2TAG97080  
2001175G



# W7F5JTG1

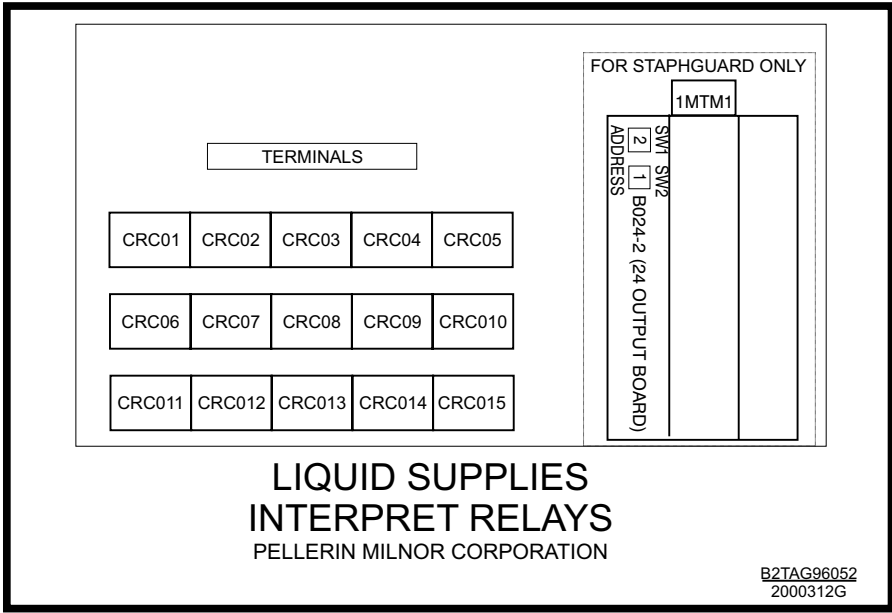
## MICRO 7 SYSTEMS, MARK V CONTROLS 30022F8J CONTROL BOX LAYOUTS

PELLERIN MILNOR CORPORATION

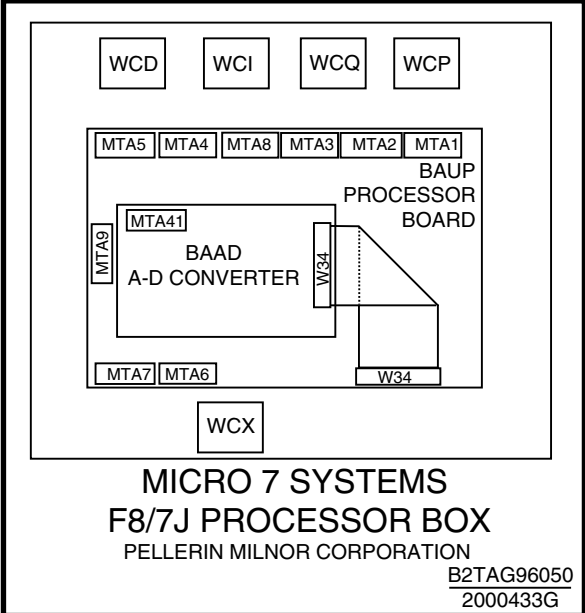


**MICRO 7 SYSTEMS MARK V CONTROLS**  
**42032 F7J CONTROL BOX**  
PELLERIN MILNOR CORPORATION

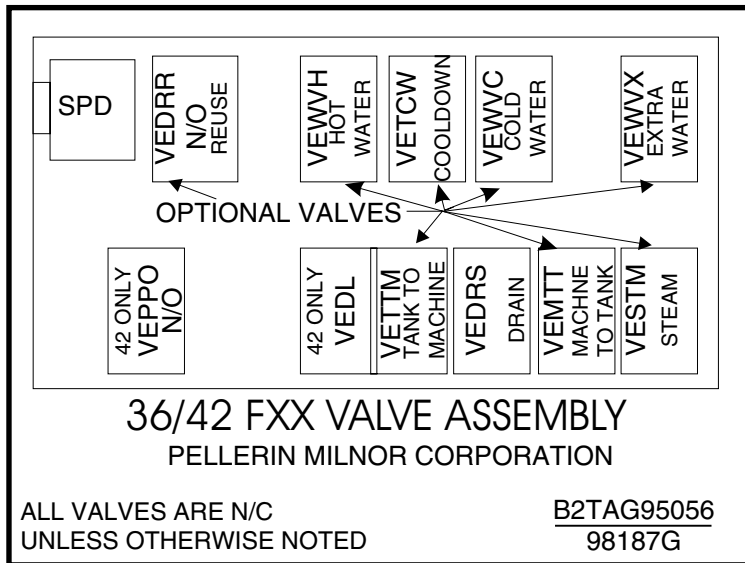
B2TAG97034  
2001175G



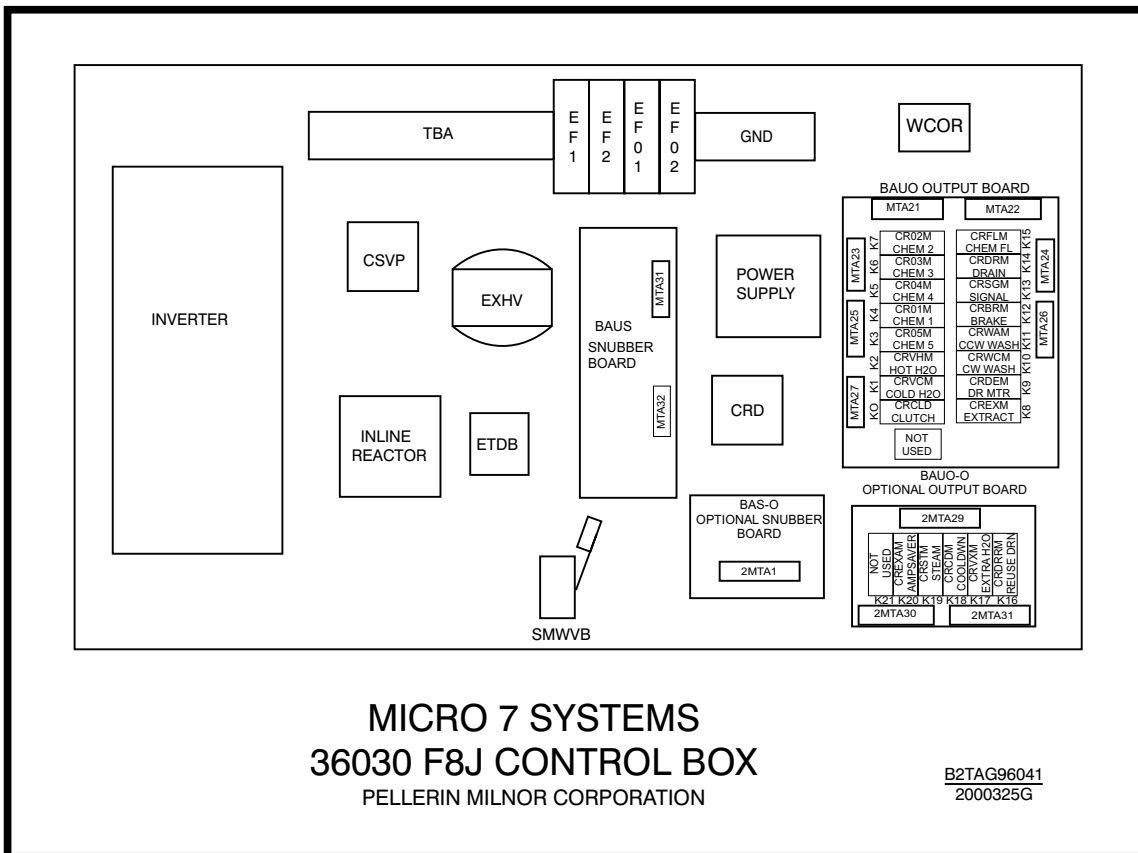
B2TAG96052  
2000312G



B2TAG96050  
2000433G



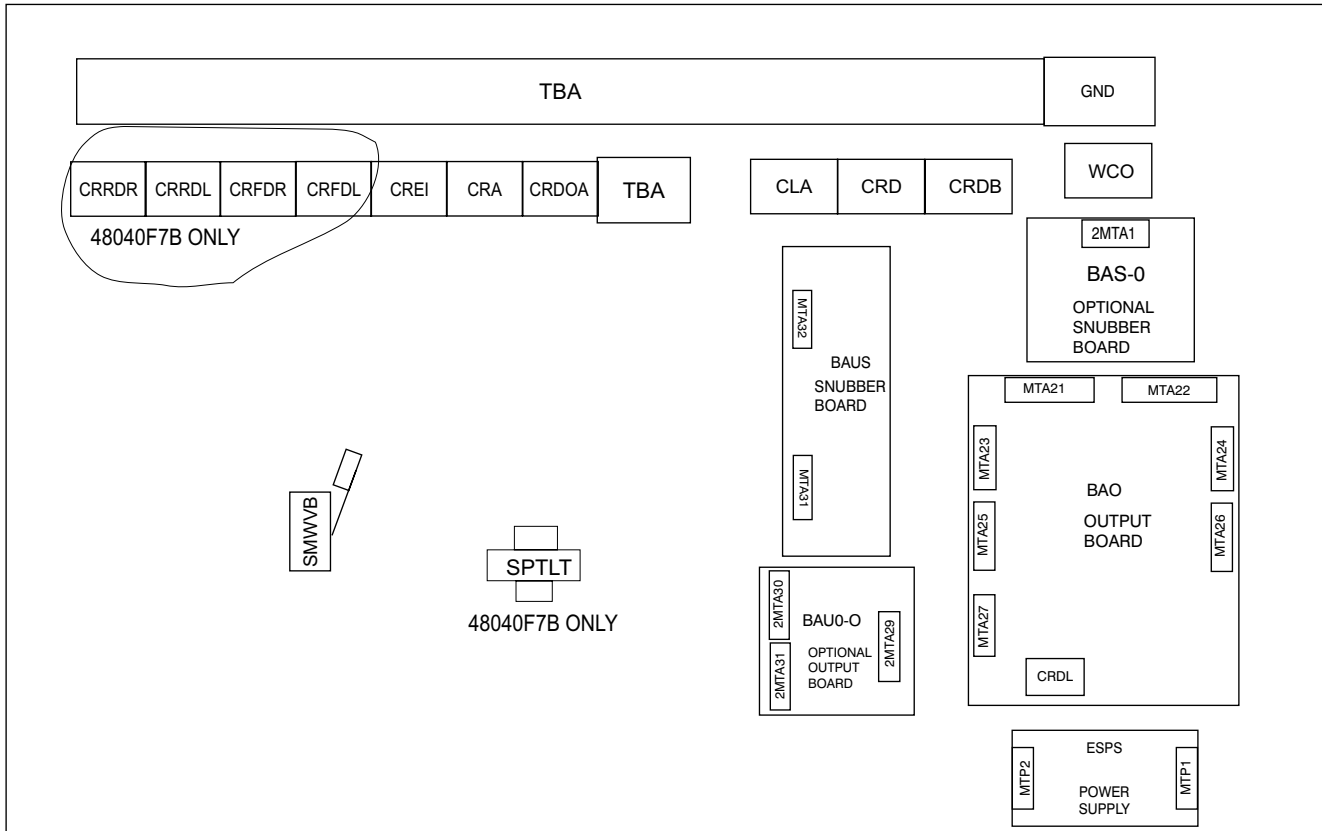
W7F5JTG2  
2001175B



**W7F5JTG2**

**MICRO 7 SYSTEMS, MARK V CONTROLS**  
**36030F8J, 42032F7J**  
**CONTROL BOX LAYOUTS**  
PELLERIN MILNOR CORPORATION

W7F5JTG2  
2001175B



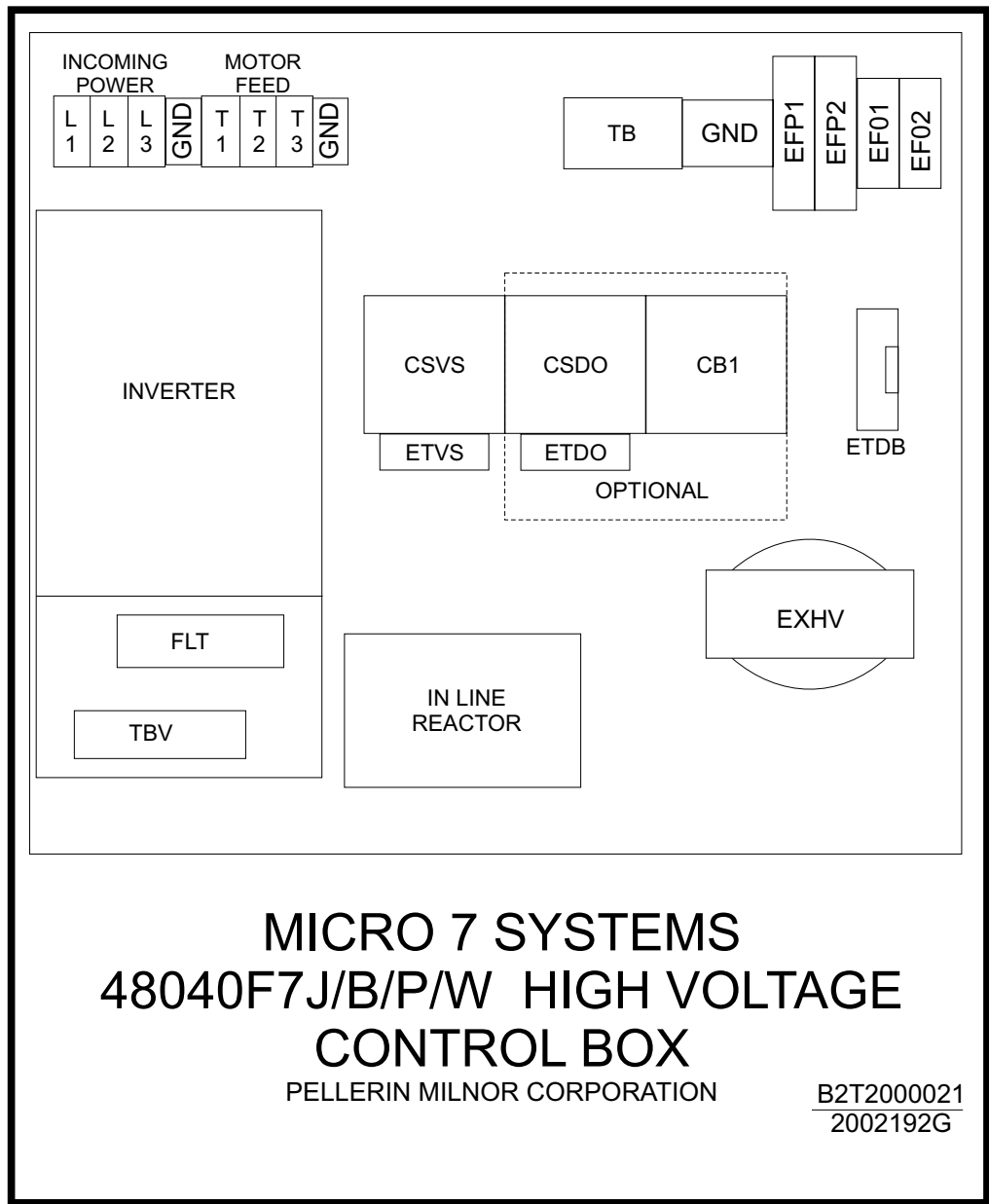
# MICRO 7 SYSTEMS

## 48040F7J/B CONTROL BOX

PELLERIN MILNOR CORPORATION

B2T2000020  
2002243G

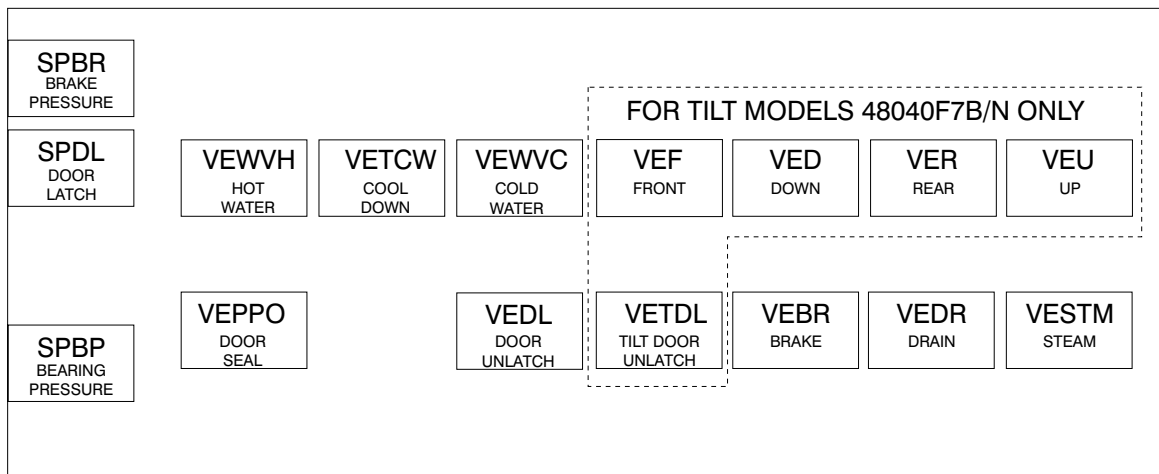




**W7F5JTG3**

**MICRO 7 SYSTEMS, MARK V CONTROLS**  
**48040F7J, 42032F7B**  
**CONTROL BOX LAYOUTS**  
PELLERIN MILNOR CORPORATION

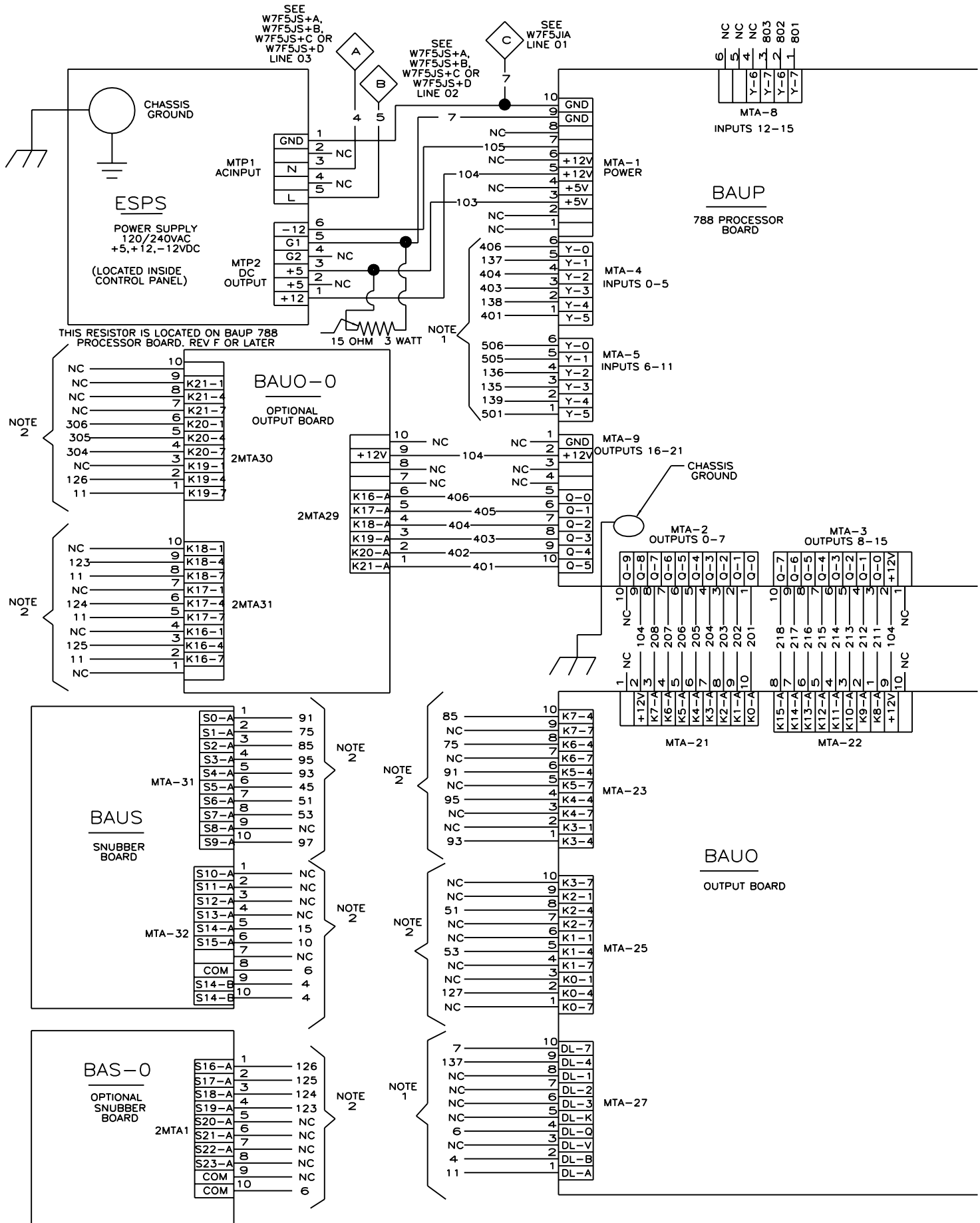
W7F5JTG3  
2002243B

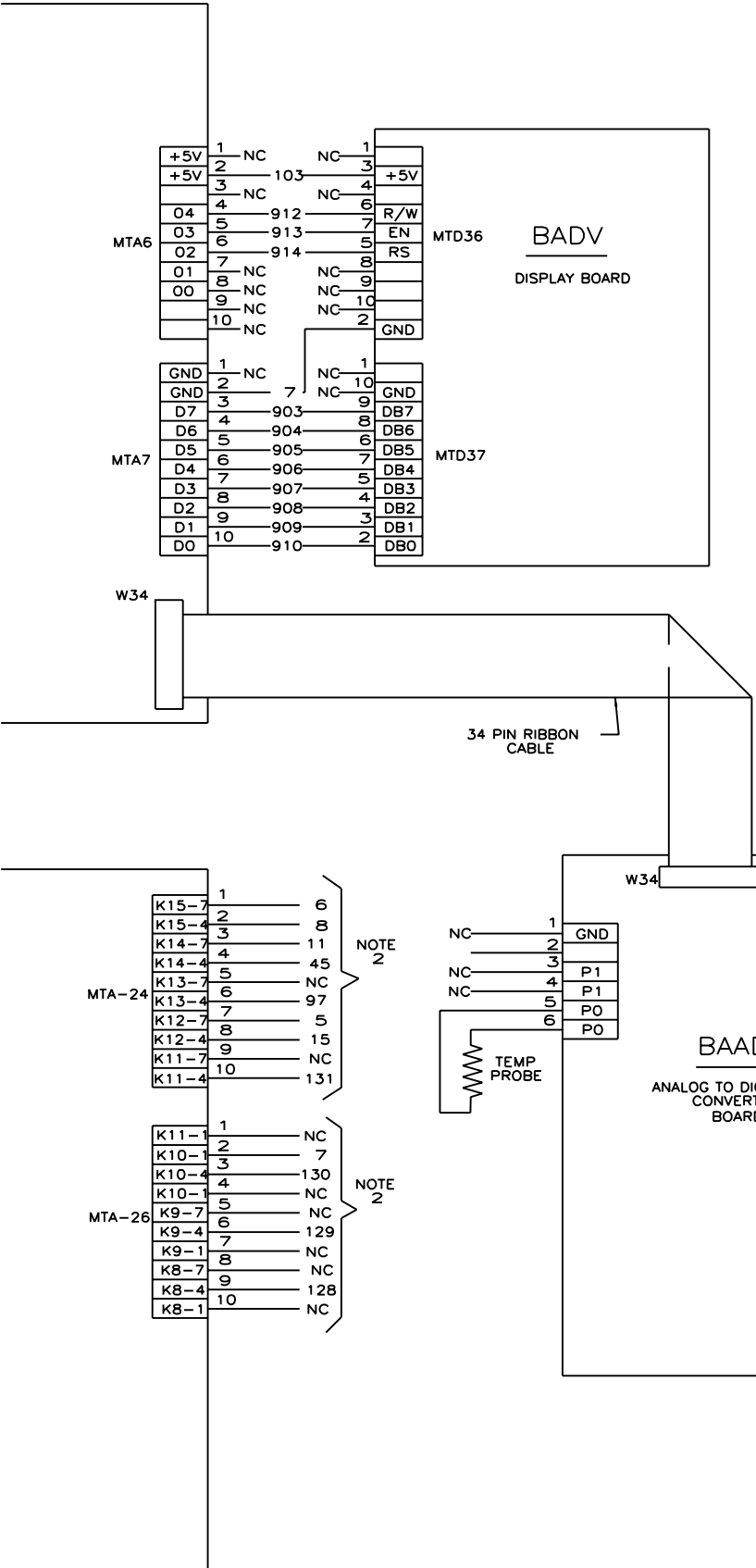


**AIR VALVE BOX**  
**48040 F7J/B, 48040F7W/N**  
PELLERIN MILNOR CORPORATION

B2T2000019  
2002243G

W7F5JTG3  
2002243B





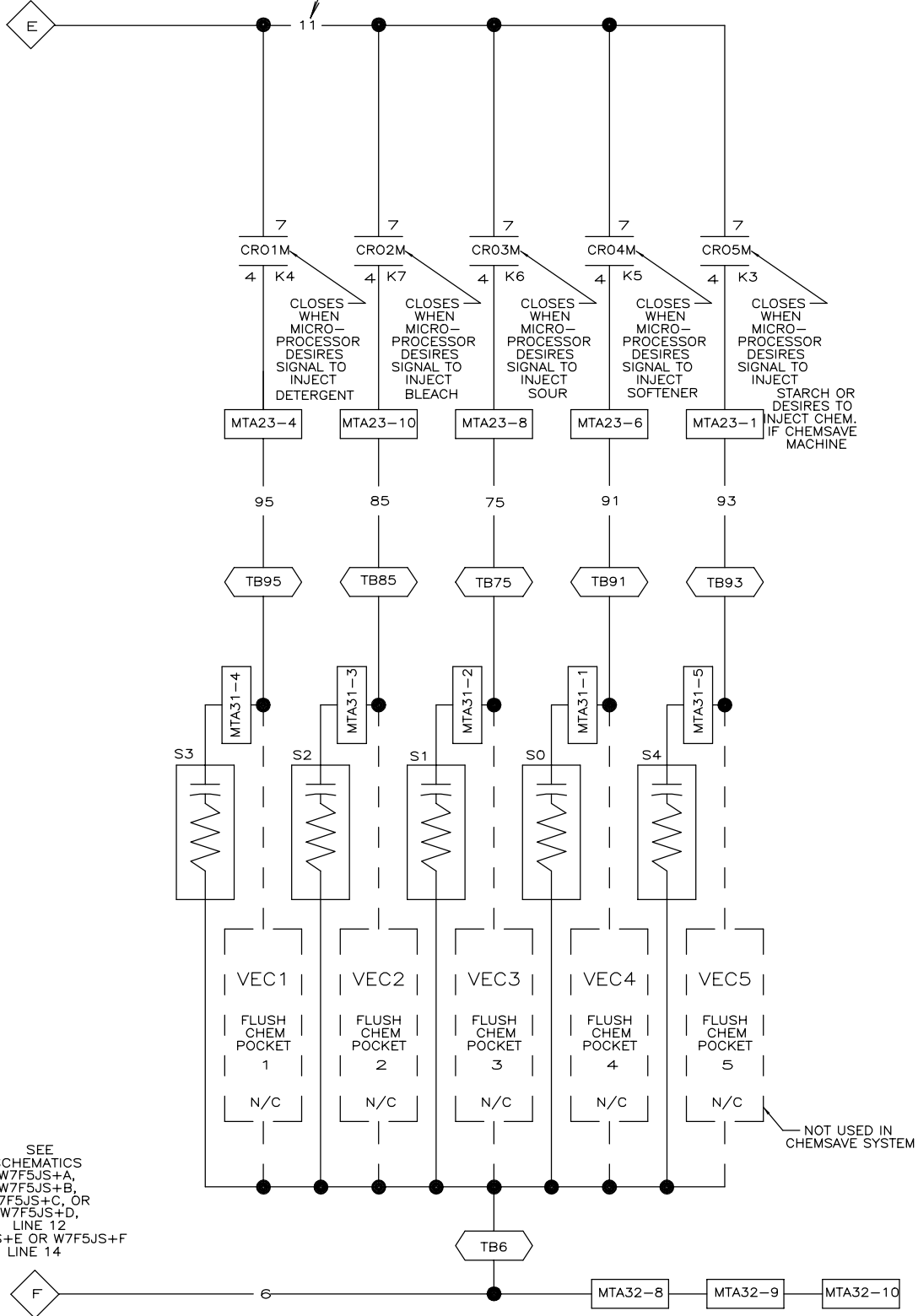
WIRE COLOR CODE	
WIRE COLOR	APPLICATION
RED	A.C. CONTROL
RED/WHITE	A.C. COMMON
BLUE	+5 VDC
BLUE/ORANGE	+12VDC
YELLOW/GREEN	GROUND
BLUE/WHITE	D.C. GROUND
BLUE/BLACK	D.C. CONTROL SIGNALS

- NOTES:
1. THESE CONNECTIONS COME FROM MACHINE INPUTS AS SHOWN ON SCHEMATIC W7F5JIA NUMBER DESIGNATION CORRESPONDS TO WIRE NUMBER. "NC" MEANS NO CONNECTIONS.
  2. THESE CONNECTIONS GO TO MACHINE OUTPUTS SHOWN ELSEWHERE IN THIS SCHEMATIC SET. ALPHA-NUMERIC DESIGNATIONS CORRESPONDS TO WIRE NUMBER. "NC" MEANS NO CONNECTIONS.

W7F5JBW  
MICRO 7 SYSTEMS MARK V  
SCHEMATIC: BOARD TO BOARD WIRING  
PELLERIN MILNOR CORPORATION

SEE  
SCHEMATICS  
W7F5JS+A,  
W7F5JS+B,  
W7F5JS+C, OR  
W7F5JS+D,  
LINE 12  
W7F5JS+E OR W7F5JS+F  
LINE 14

NOTE:  
FOR 48040F7B MODEL (TILTING) THIS WIRE  
NUMBER BECOMES 111. SEE W7F5JS+E



LITHO IN U.S.A.

00 01 02 03 04 05 06 07 08

NOTES:

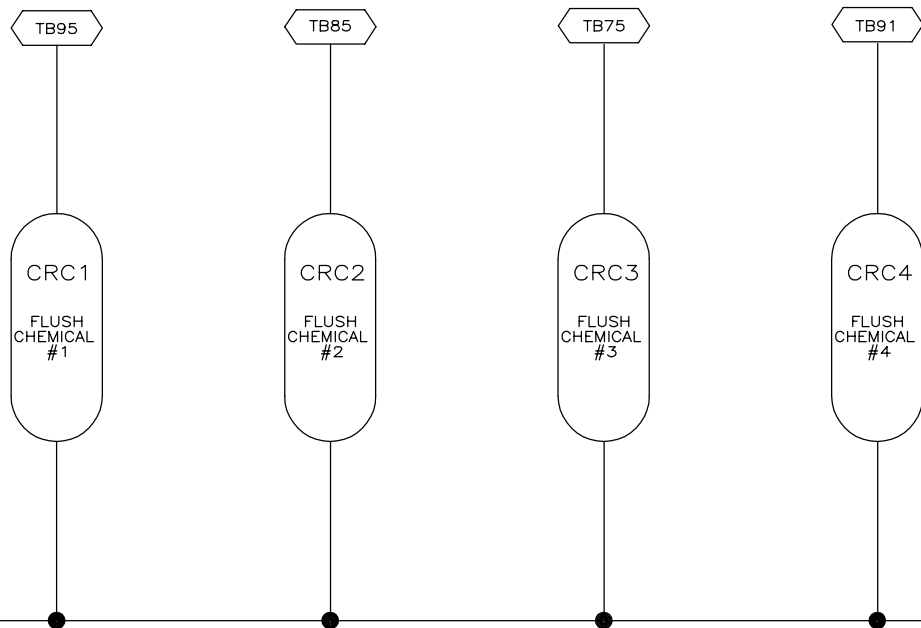
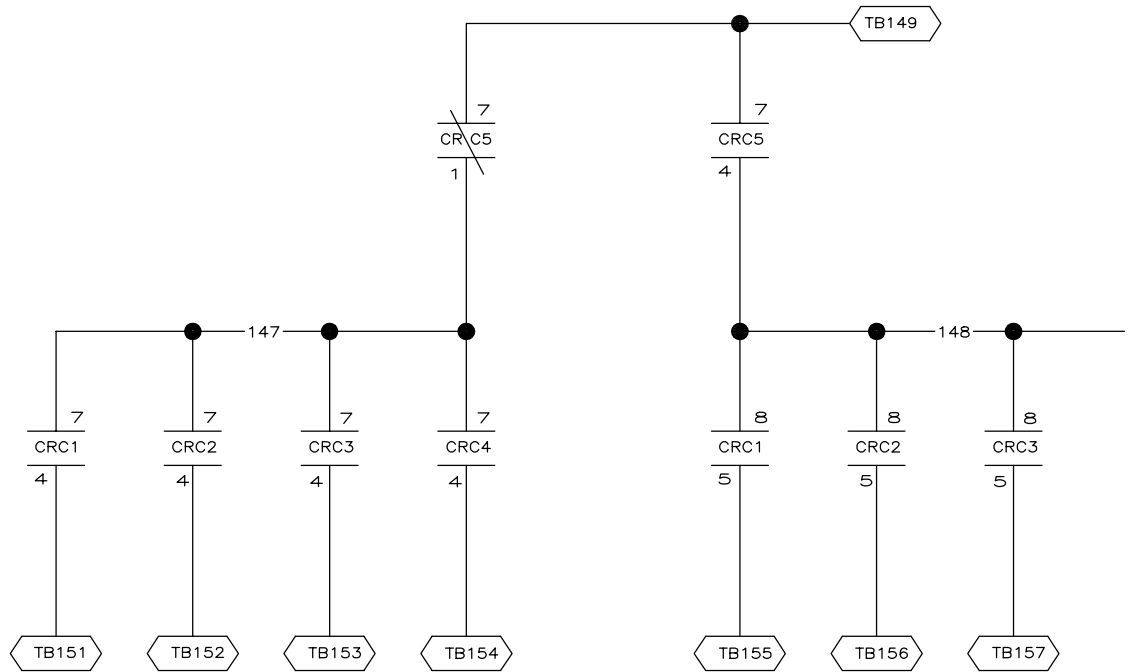
1. VEC1, VEC2, AND VEC3 ARE PROVIDED AS PART OF THE OPTIONAL DRY CHEMICAL SUPPLY INJECTOR.
2. MTA23 AND MTA 24 ARE LOCATED ON THE OUTPUT BOARD.
3. MTA31 IS LOCATED ON THE SNUBBER BOARD.

# W7F5JCF

## MICRO 7 SYSTEMS MARK V SCHEMATIC: FLUSHING SUPPLIES

220V1P50HZ/240V1P60HZ

PELLERIN MILNOR CORPORATION



SEE  
W7F5JS+A,  
W7F5JS+B,  
W7F5JS+C OR  
W7F5JS+D  
LINE 12



6

02

03

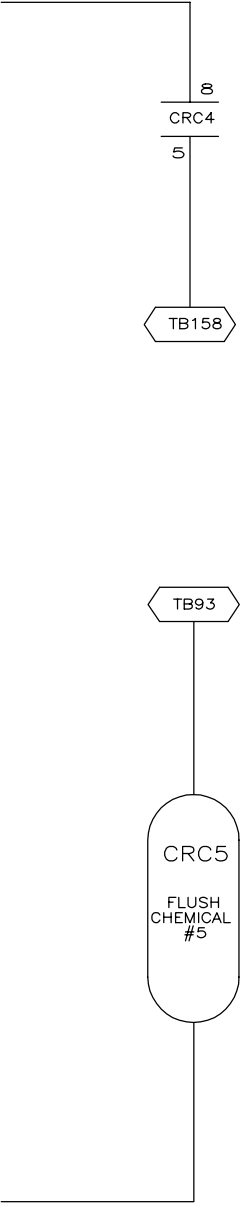
04

05

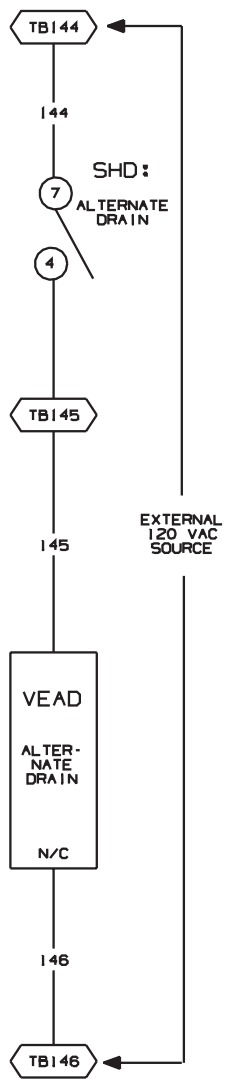
06

07

08



W7F5JCM  
MICRO 7 SYSTEMS MARK V  
SCHEMATIC: OPTIONAL 8 CHEMICAL FLUSHING  
PELLERIN MILNOR CORPORATION



00

01

02

03

04

05

06

07



NOTES:  
FOR NON AIR OPERATED  
DRAINS SEE W7F5JEVS

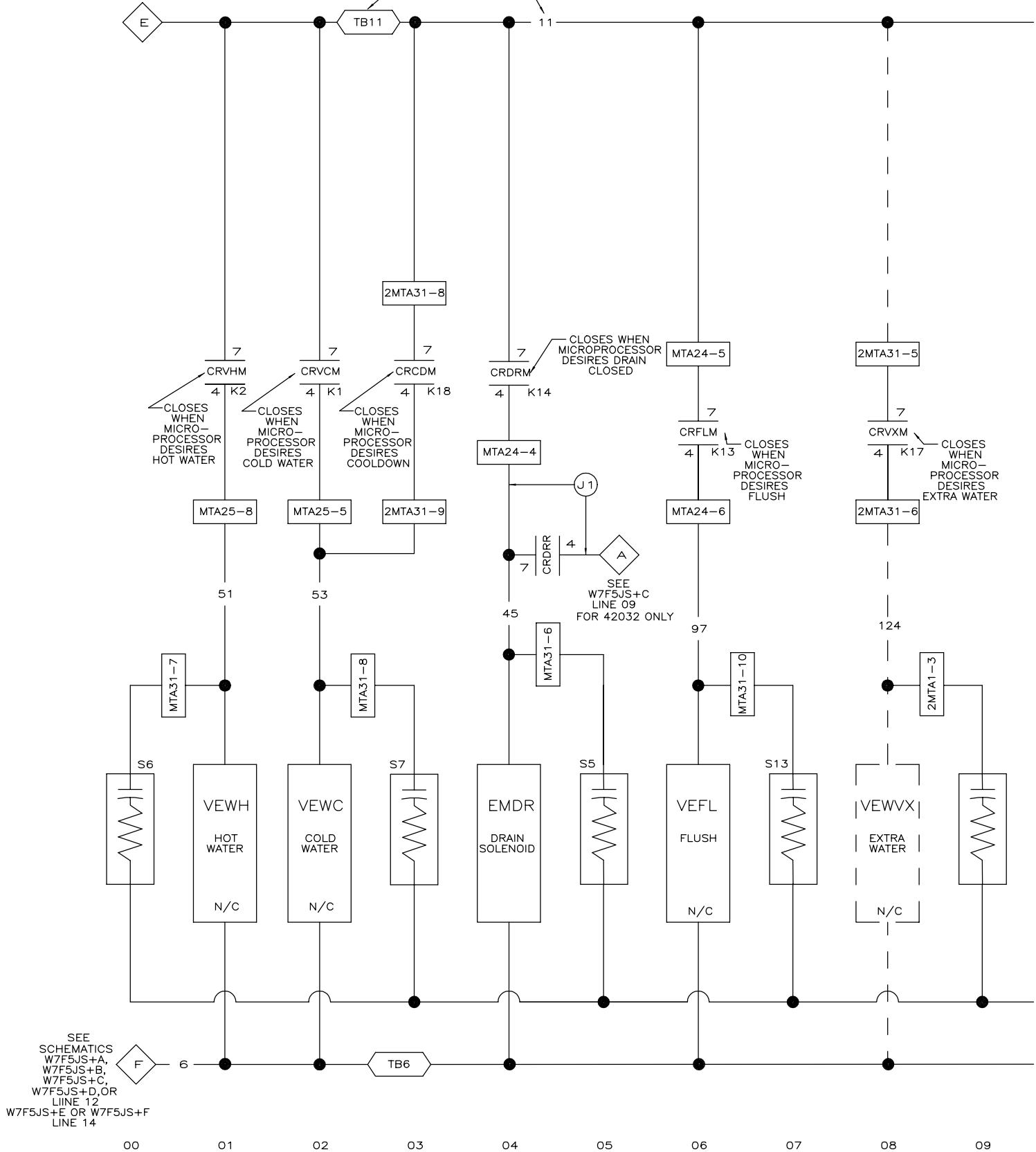
## W7F5JDR

MICRO 7 SYSTEMS MARK V  
SCHEMATIC: ALTERNATE DRAIN VALVE  
FOR AIR OPERATED DRAINS ONLY

110V1P50HZ/120V1P60HZ  
PELLERIN MILNOR CORPORATION

SEE  
SCHEMATICS  
W7F5JS+A,  
W7F5JS+B,  
W7F5JS+C,  
W7F5JS+D,OR  
LINE 12  
W7F5JS+E OR W7F5JS+F  
LINE 14

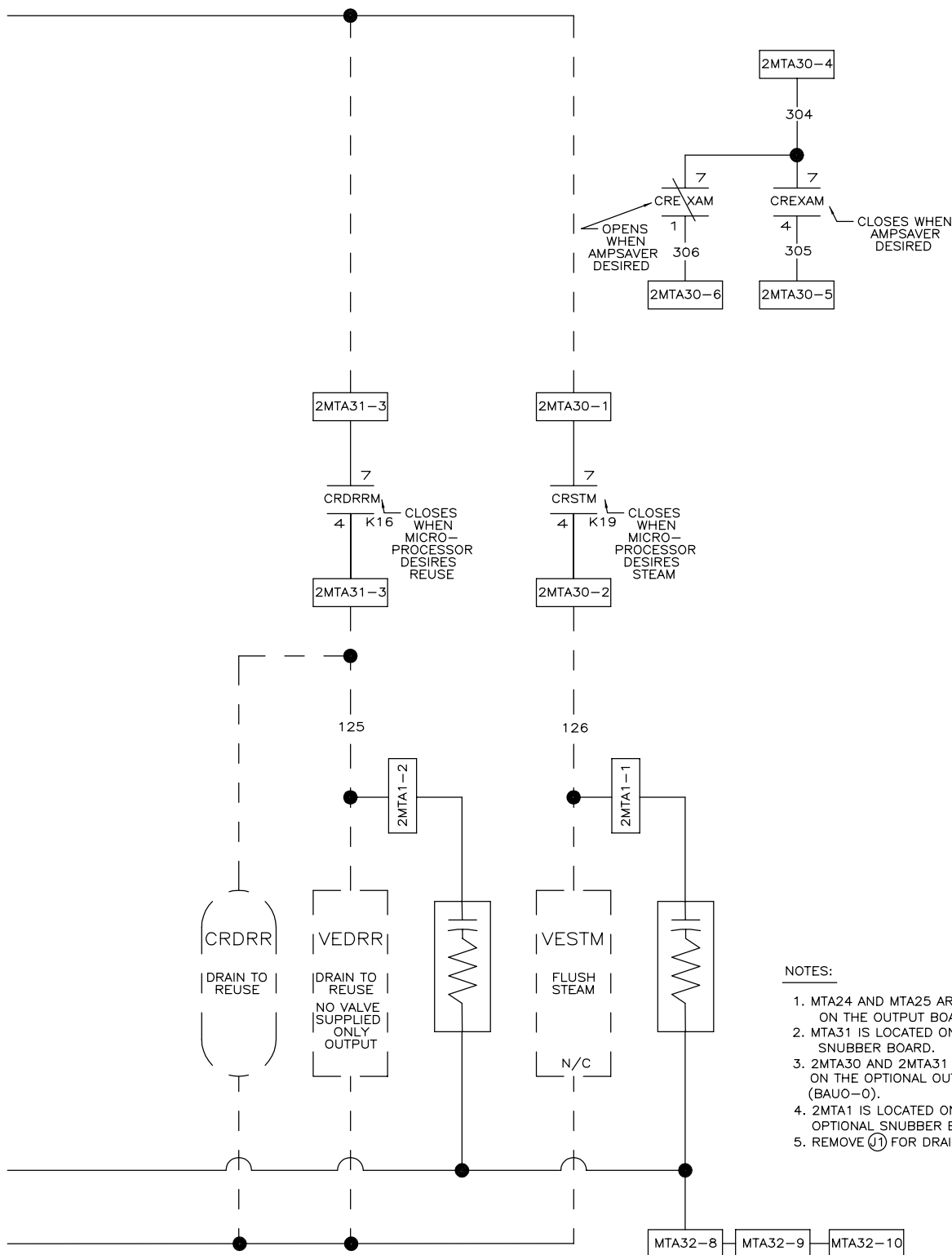
NOTE:  
FOR 48040F7B MODEL (TILTING) THIS WIRE AND TERMINAL  
NUMBER BECOMES 111. SEE W7F5JS+E



SEE  
SCHEMATICS  
W7F5JS+A,  
W7F5JS+B,  
W7F5JS+C,  
W7F5JS+D,OR  
LINE 12  
W7F5JS+E OR W7F5JS+F  
LINE 14

EV06

W7F5JEV  
2002496B



# W7F5JEV

## MICRO 7 SYSTEMS MARK V

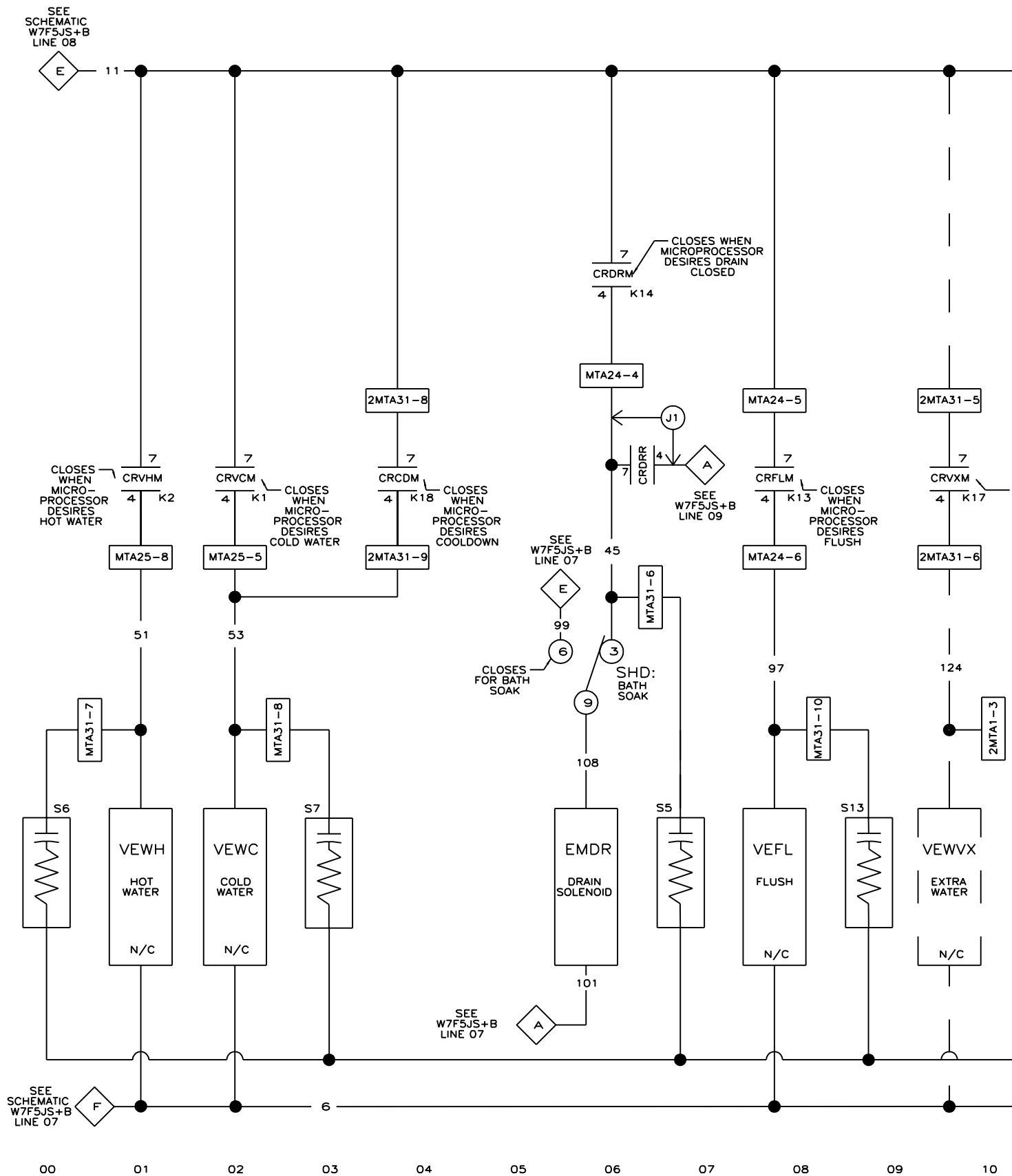
### SCHEMATIC: ELECTRIC VALVES

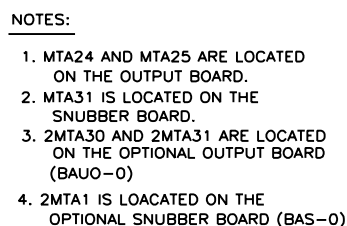
#### 220V1P50HZ/240V1P60HZ

PELLERIN MILNOR CORPORATION

#### NOTES:

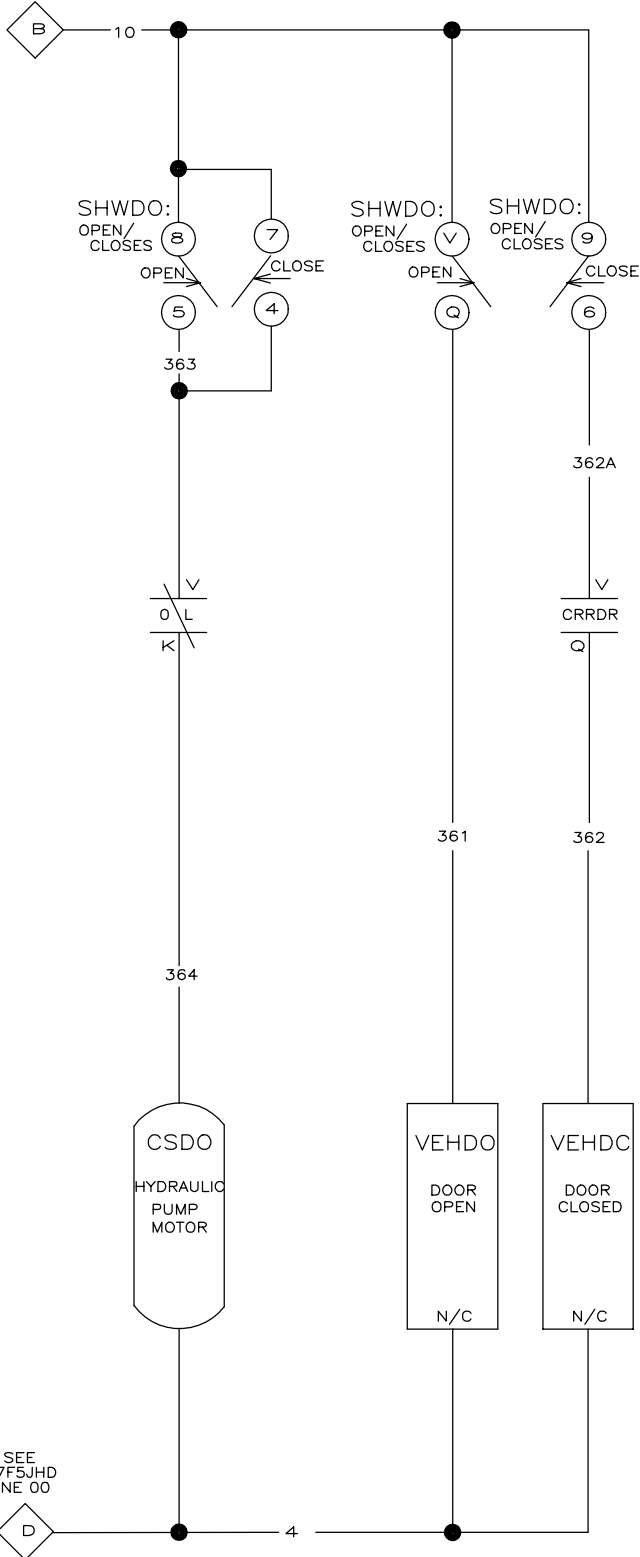
1. MTA24 AND MTA25 ARE LOCATED ON THE OUTPUT BOARD.
2. MTA31 IS LOCATED ON THE SNUBBER BOARD.
3. 2MTA30 AND 2MTA31 ARE LOCATED ON THE OPTIONAL OUTPUT BOARD (BAU-0).
4. 2MTA1 IS LOCATED ON THE OPTIONAL SNUBBER BOARD (BAS-0).
5. REMOVE (1) FOR DRAIN TO REUSE OPTION.





W7F5JEVS  
MICRO 7 SYSTEMS MARK V  
SCHEMATIC: ELECTRIC VALVES FOR  
BATH SOAK OPTION (NON AIR OPERATED DRAIN)

SEE  
W7F5JHD  
LINE 04



SEE  
W7F5JHD  
LINE 00

00

01

02

03

04

05

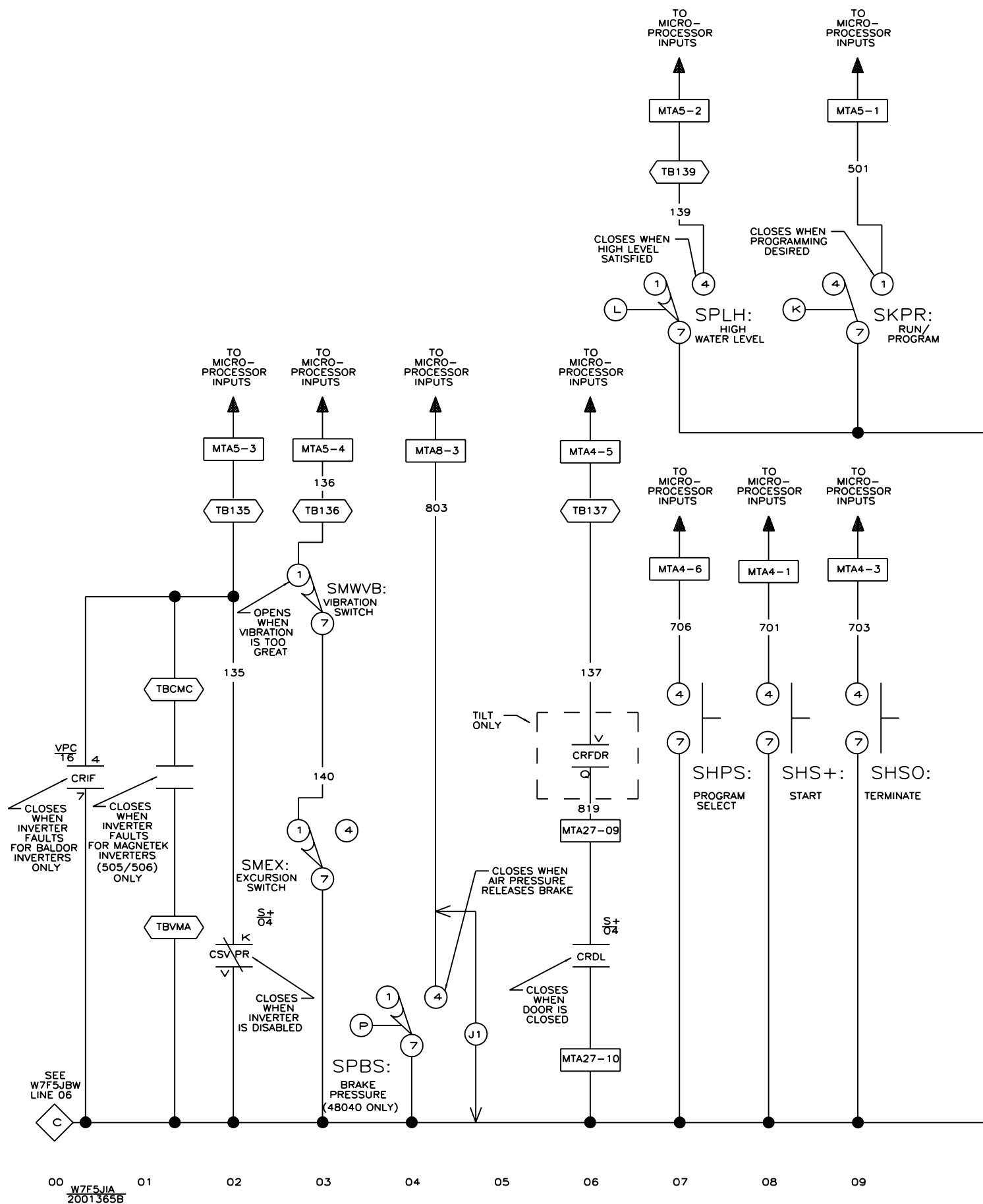
06

07

08

09

W7F5JHD  
MICRO 6 SYSTEMS  
MARK V CONTROLS  
SCHEMATIC; HYDRAULIC DOOR  
FOR 48040F7B/J  
220V1P50HZ/240V1P60HZ  
PELLERIN MILNOR CORPORATION



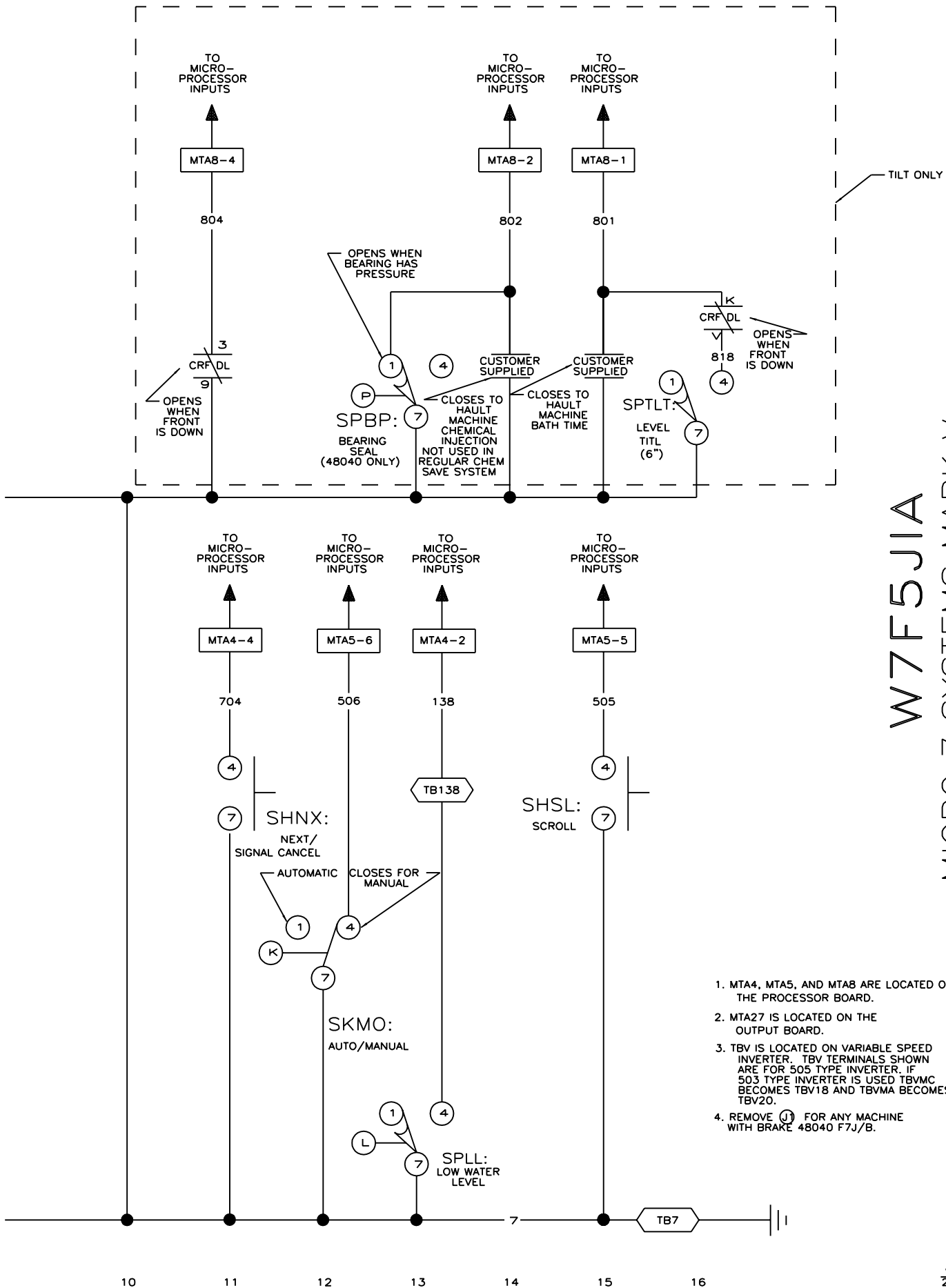


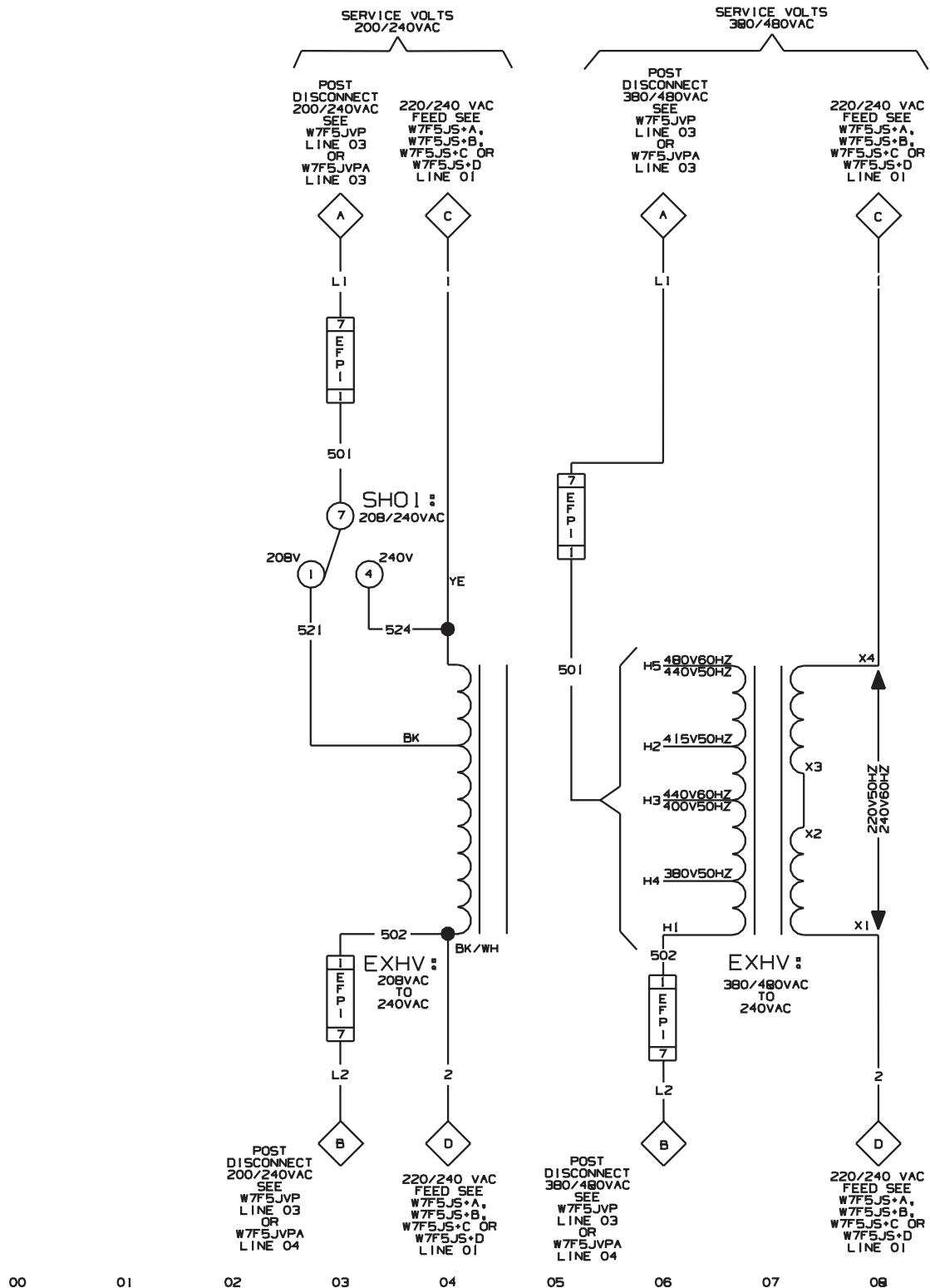
# W7F5JIA

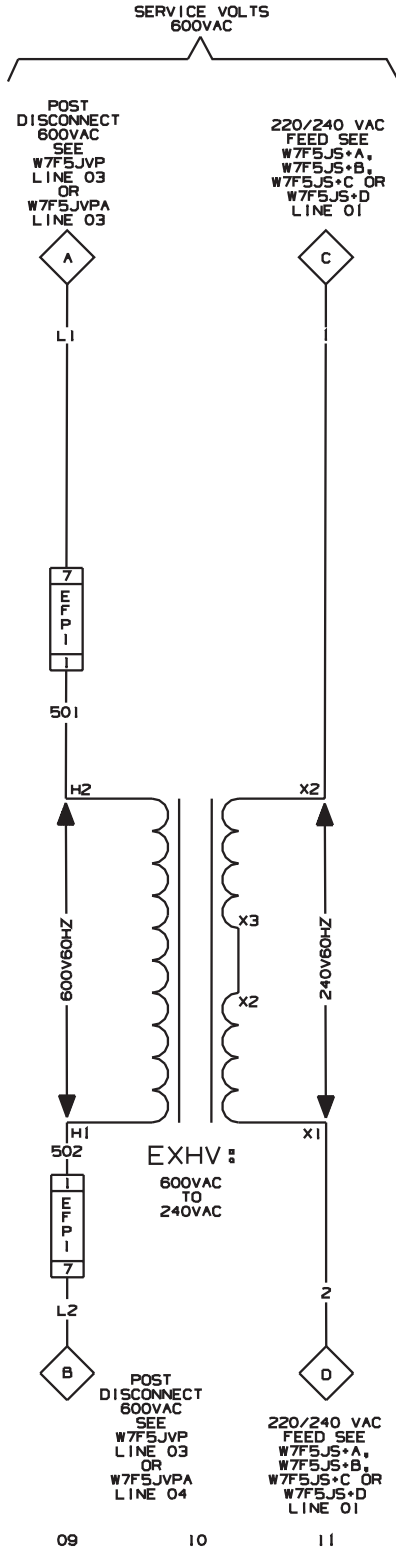
## MICRO 7 SYSTEMS MARK V

### SCHEMATIC: MICROPROCESSOR INPUTS

PELLERIN MILNOR CORPORATION





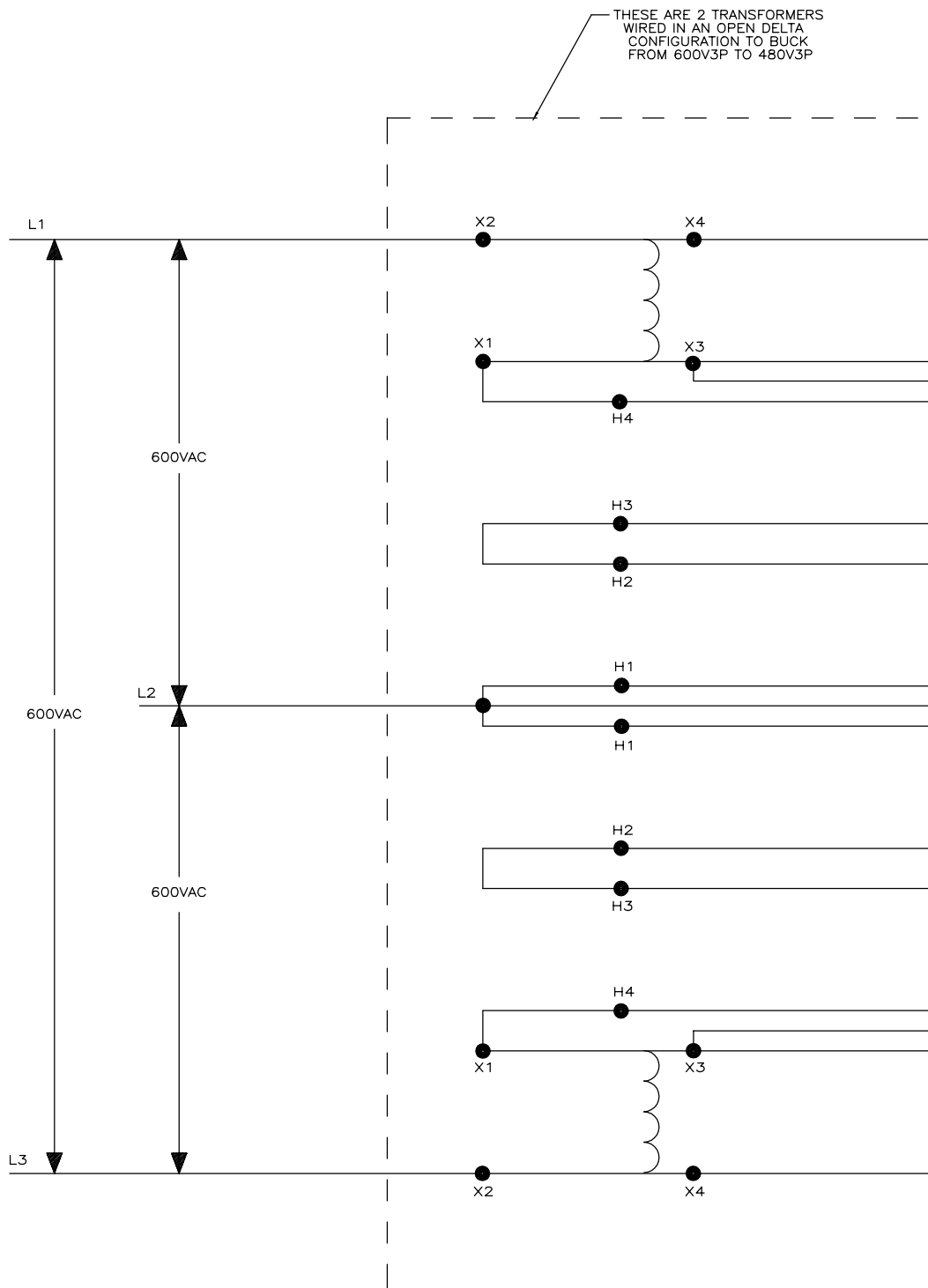


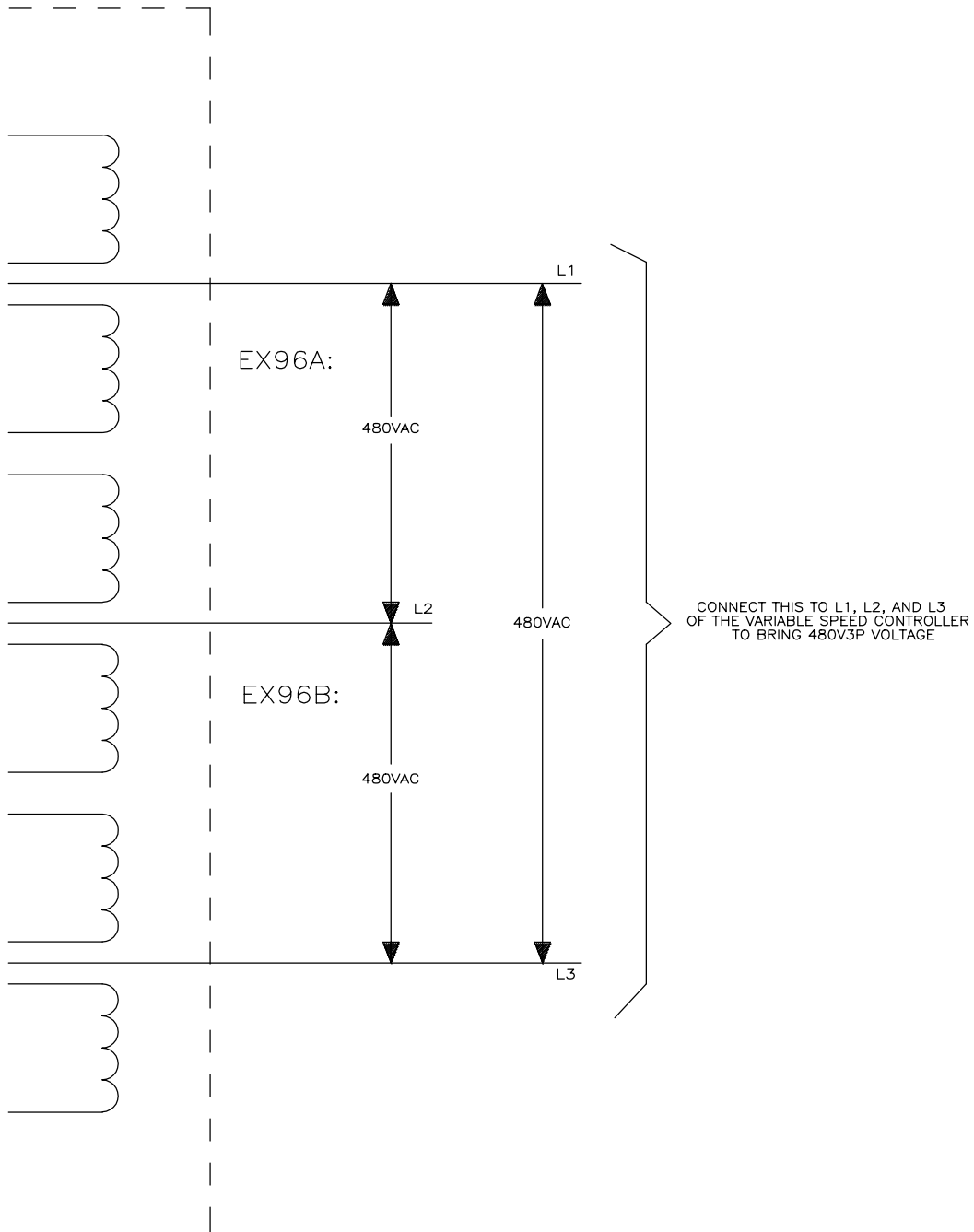
# W7F5JLV

MICRO 7 SYSTEMS MARK V  
SCHEMATIC: CONTROL CIRCUIT TRANSFORMER  
220V1P50HZ/240V1P60HZ

PELLERIN MILNOR CORPORATION

REMOVE THE 3 PHASE  
FEED FROM L1, L2, AND L3  
OF THE VARIABLE SPEED  
CONTROLLER AND CONNECT  
TO THE TRANSFORMERS





# W7F5JMT6

## MICRO 7 SYSTEMS MARK V

### SCHEMATIC: 600V TO 480V STEP DOWN FOR 600V3P ELECTRICAL SUPPLY

PELLERIN MILNOR CORPORATION

W7F5JMT6  
2001084B



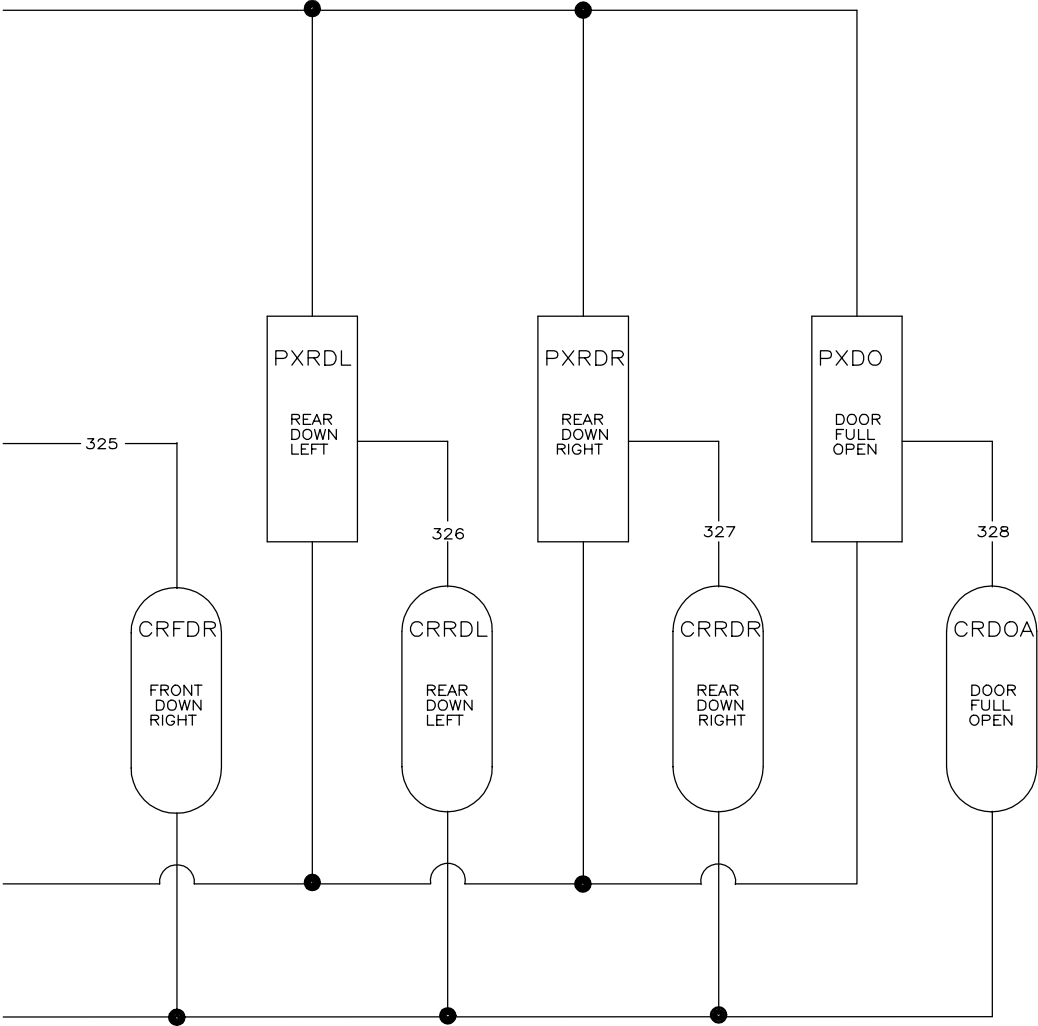
—	RH01
—	S+E06
—	S+E11
—	S+E12

—	RH02
—	S+E06
—	
—	

—	RH02
—	S+E06
—	S+E08
—	HD04

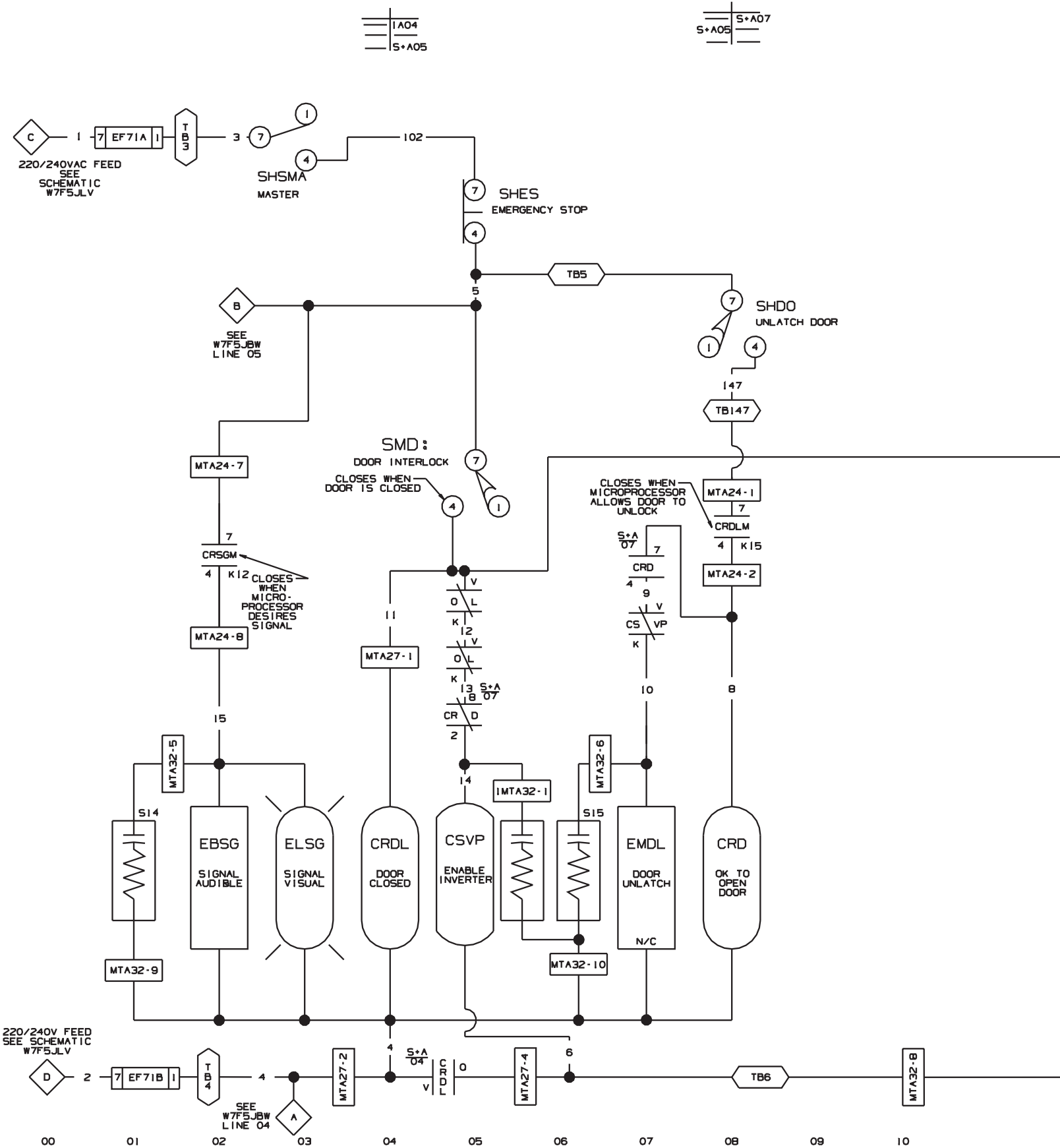
—	RH03
—	
—	
—	

W7F5JRH  
2002243B

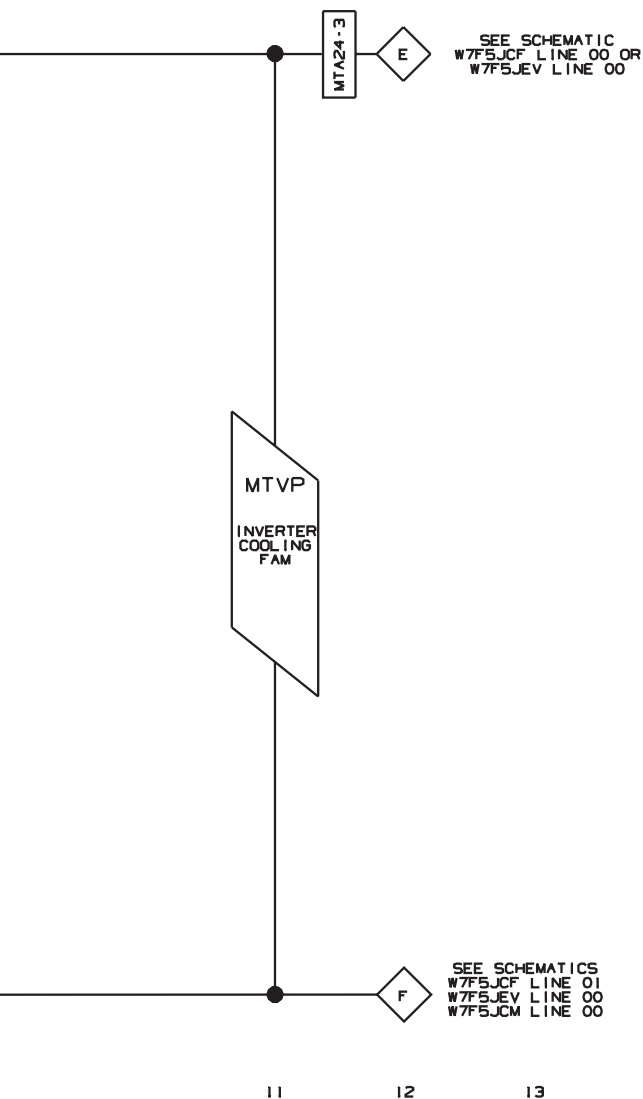


W7F5JRH  
MICRO 7 SYSTEMS  
MARK V CONTROLS  
SCHEMATIC; RAISE HOUSE  
FOR 48040 F7B ONLY  
220V1P50HZ/240V1P60HZ  
PELLERIN MILNOR CORPORATION

REMOVE J1  
FOR AUTO DOOR OPTION







**NOTES:**

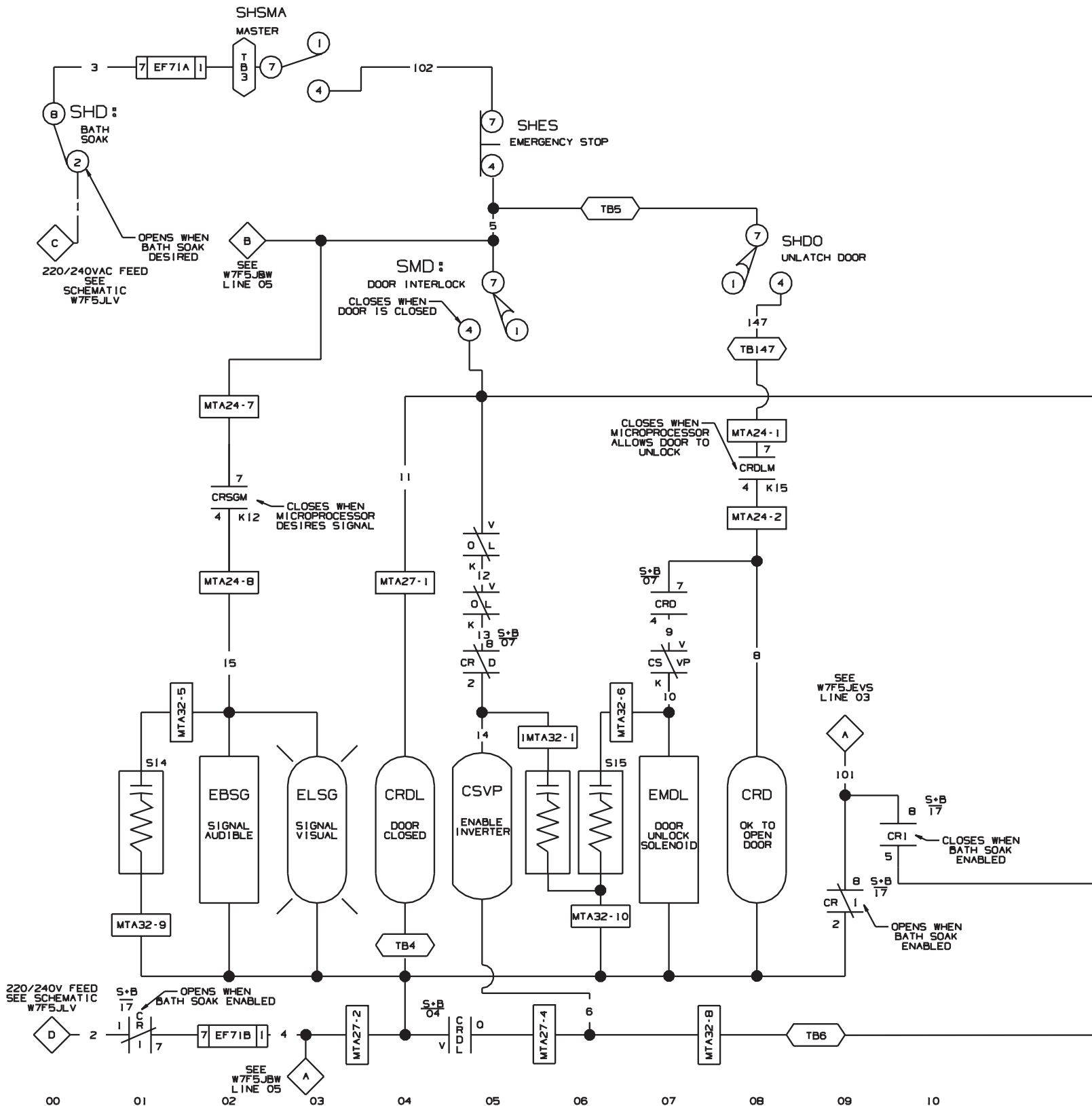
1. MTA24, MTA27 AND MTA28 ARE LOCATED ON THE OUTPUT BOARD.
2. MTA31 AND MTA32 ARE LOCATED ON THE SNUBBER BOARD.

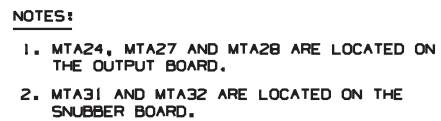
# W7F5JS+A

MICRO 7 SYSTEMS MARK V  
FOR 30 & 36 F8J AND 36 & 42 V6J  
SCHEMATIC: START CIRCUIT & DOOR INTERLOCK  
220V, 1P, 50HZ/240V, 1P, 60HZ  
PELLERIN MILNOR CORPORATION

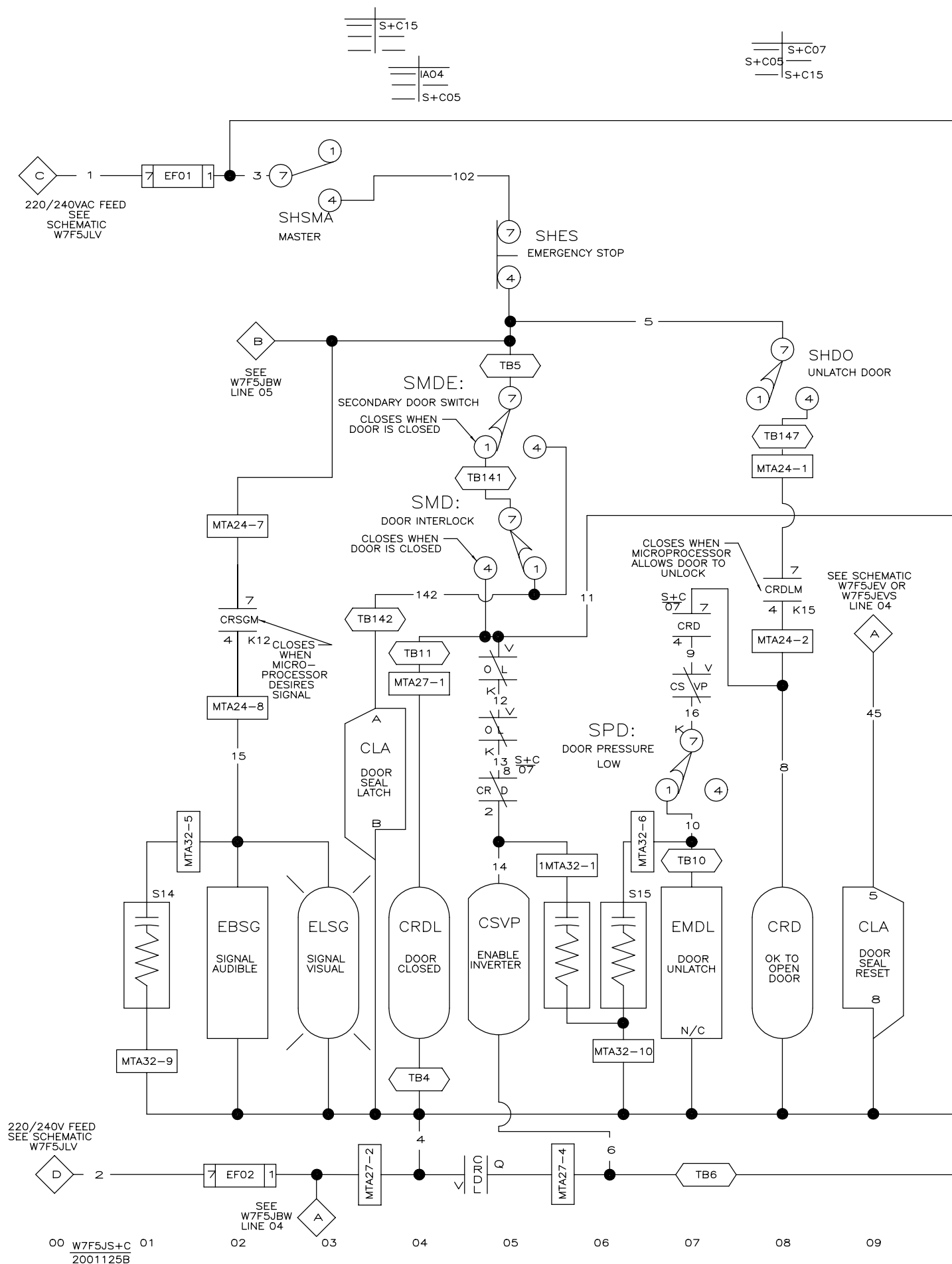
101  
S•B05

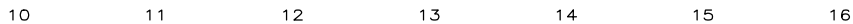
S•E07  
S•E05



B+S  
RS  
FL  
WM

MICRO 7 SYSTEMS MARK V  
FOR 30 & 36 F8J WITH BATH SOAK OPTION  
SCHEMATIC: START CIRCUIT & DOOR INTERLOCK  
220V, 1P, 50HZ/240V, 1P, 60HZ  
PELLERIN MILNOR CORPORATION



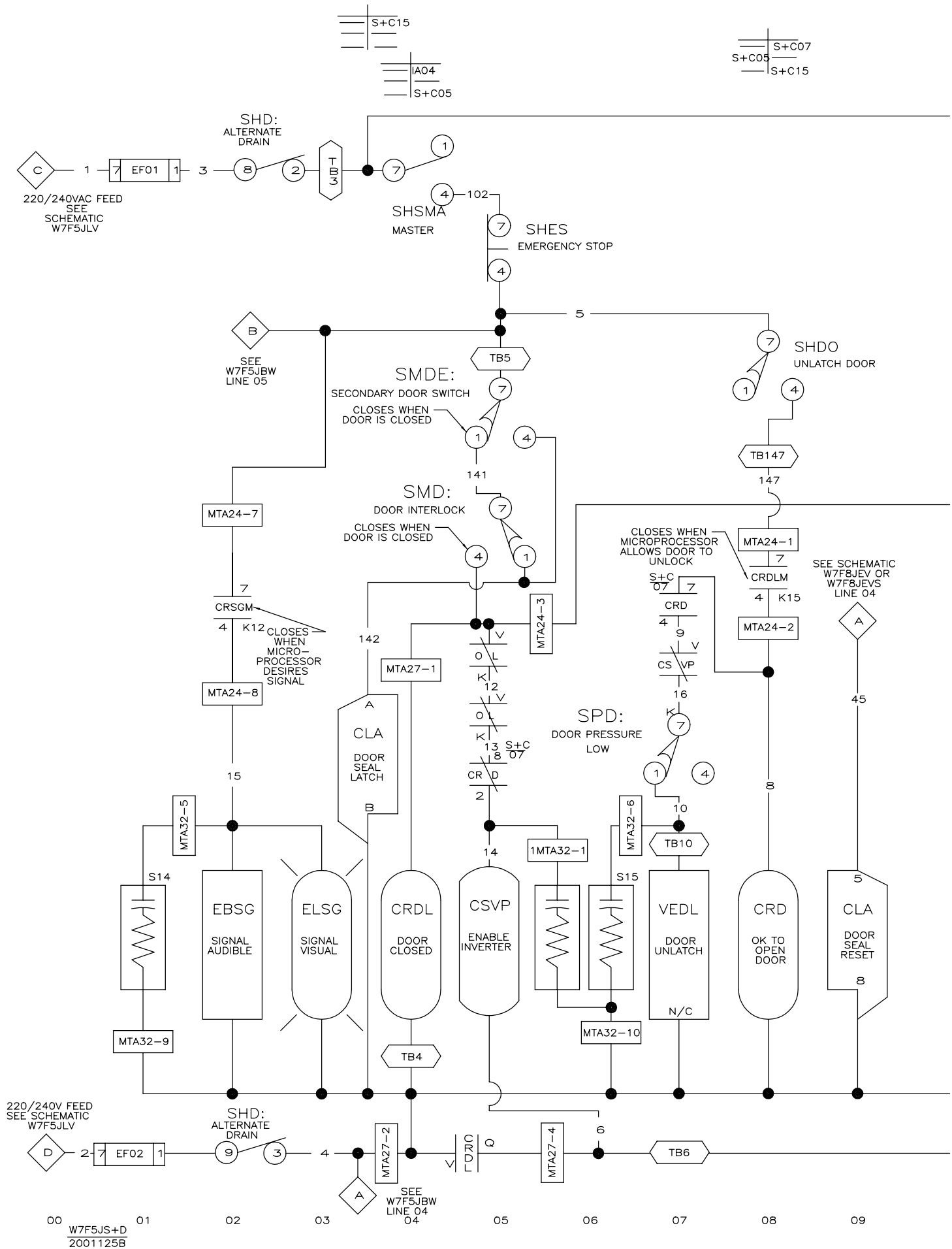


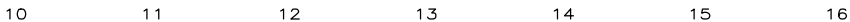
1. MTA24, MTA27 AND MTA28 ARE LOCATED ON THE OUTPUT BOARD.
2. MTA31 AND MTA32 ARE LOCATED ON THE SNUBBER BOARD.

MICRO 7 SYSTEMS MARK V  
FOR 42032F7J ONLY  
SCHEMATIC: START CIRCUIT & DOOR INTERLOCK  
220V, 1P, 50HZ/240V, 1P, 60HZ

220V, 1P, 50HZ/240V, 1P, 60HZ

PELLERIN MILNOR CORPORATION



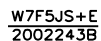


1. MTA24, MTA27 AND MTA28 ARE LOCATED ON THE OUTPUT BOARD.
2. MTA31 AND MTA32 ARE LOCATED ON THE SNUBBER BOARD.

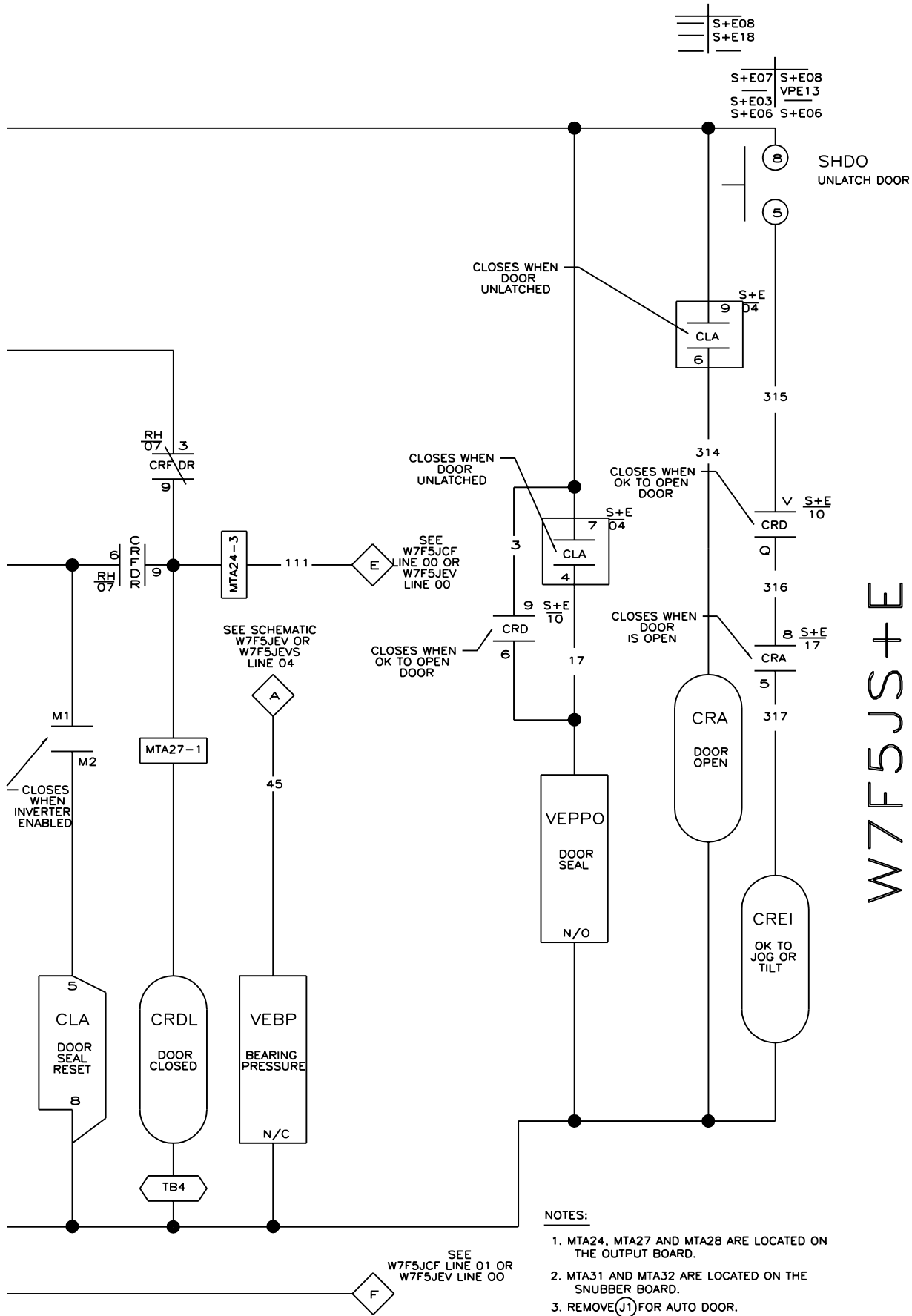
MICRO 7 SYSTEMS MARK V  
FOR 42032F7J ONLY WITH ALTERNATE DRAIN OPTION  
SCHEMATIC: START CIRCUIT & DOOR INTERLOCK

W7F5JS+D  
2001125B

W7F5JS+D  
2001125B







**W7F5JS+E**  
 MICRO 7 SYSTEMS MARK V  
 FOR 48040F7B ONLY (TILT)  
 SCHEMATIC: START CIRCUIT & DOOR INTERLOCK  
 220V, 1P, 50HZ/240V, 1P, 60HZ  
 PELLERIN MILNOR CORPORATION



W7F5JS+F

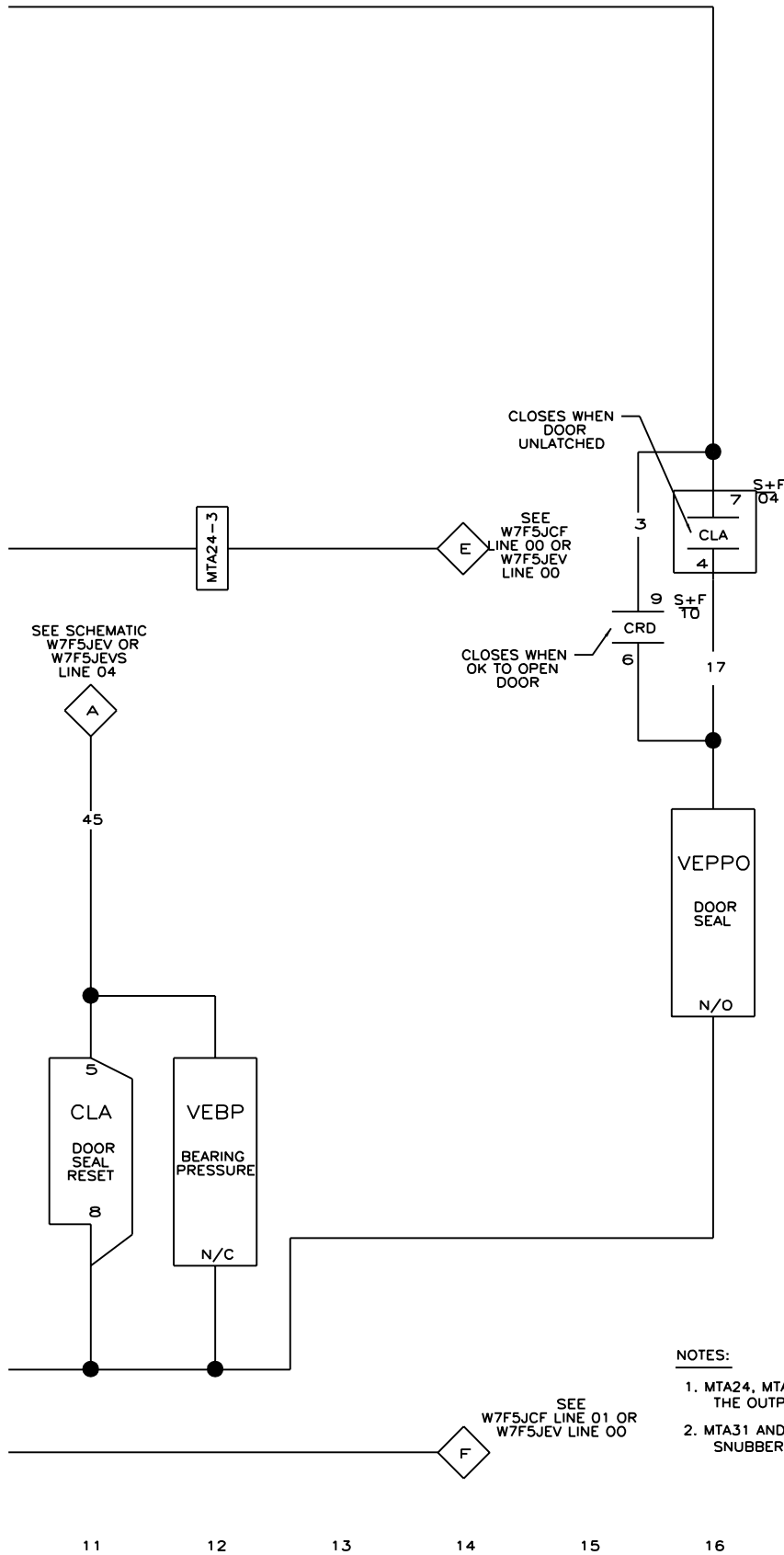
MICRO 7 SYSTEMS MARK V

FOR 48040F7J ONLY (NON TILT)

SCHEMATIC: START CIRCUIT & DOOR INTERLOCK

220V, 1P, 50HZ/240V, 1P, 60HZ

PELLERIN MILNOR CORPORATION



NOTES:

1. MTA24, MTA27 AND MTA28 ARE LOCATED ON THE OUTPUT BOARD.
2. MTA31 AND MTA32 ARE LOCATED ON THE SNUBBER BOARD.

CONNECTS TO  
WIRE 501 SEE  
W7F5JLV



501

H5

240V60HZ

H1

502



CONNECTS TO  
WIRE 502 SEE  
W7F5JLV

EXSG :  
240VAC  
TO  
120VAC

x2

120V60HZ

x1

2

7

CRSB

4

CLOSES WHEN  
SIGNAL IS DESIRED

ELSBB

ROTATING  
SIGNAL  
BEACON

00

01

02

03

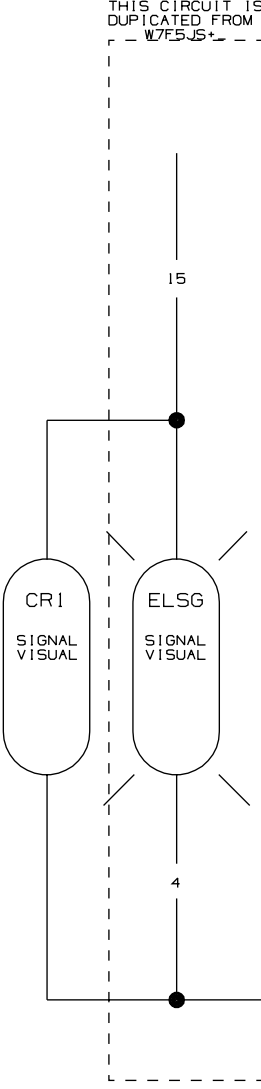
04

05

06

07

08



09

10

11

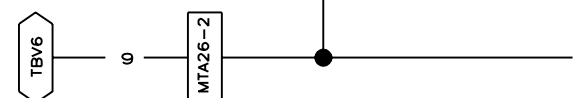
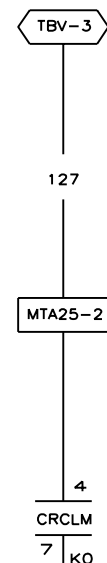
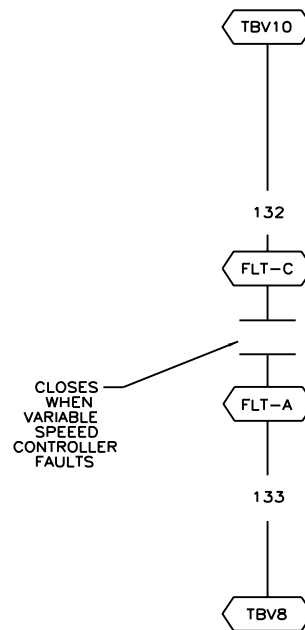
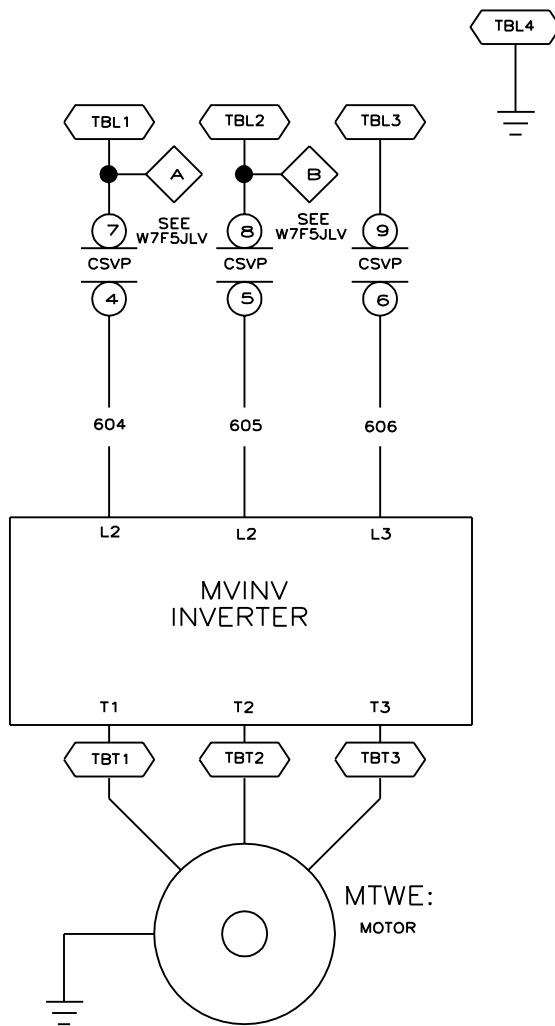
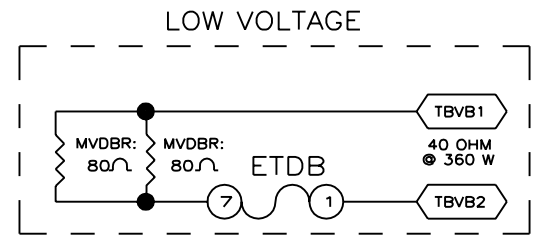
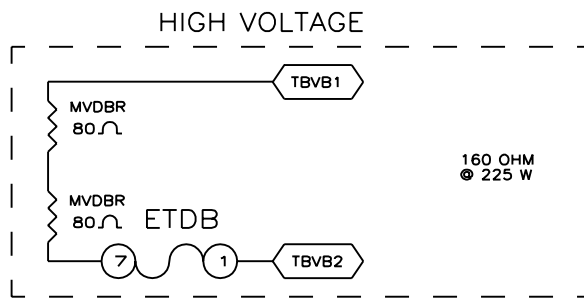
12

13

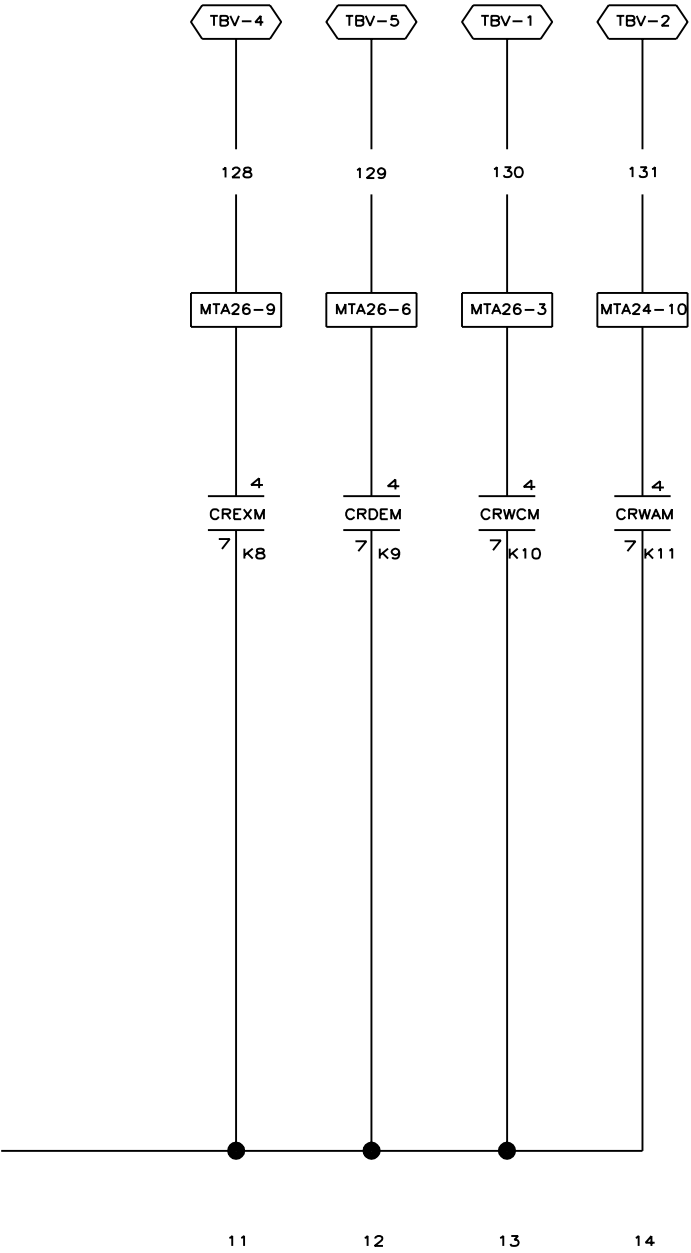
# W7F5JSB

MICRO 7 SYSTEMS MARK V  
SCHEMATIC:OPTIONAL SIGNAL BEACON  
TRANSFORMER

PELLERIN MILNOR CORPORATION



LITHO IN U.S.A.



	CW		CCW		
	K10	K11	K0	K8	K9
WASH 1	X				
WASH 2	X		X		
DRAIN	X			X	
EXTRACT 1	X				X
EXTRACT 2	X		X		X
EXTRACT 3	X			X	X
OUT OF EXTRACT					X

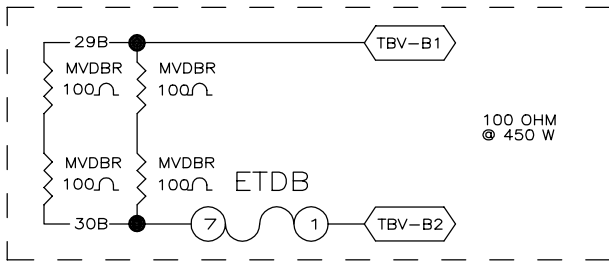
NOTES:

1. TBV IS LOCATED IN VARIABLE SPEED CONTROLLER BOX ON VARIABLE SPEED CONTROLLER.

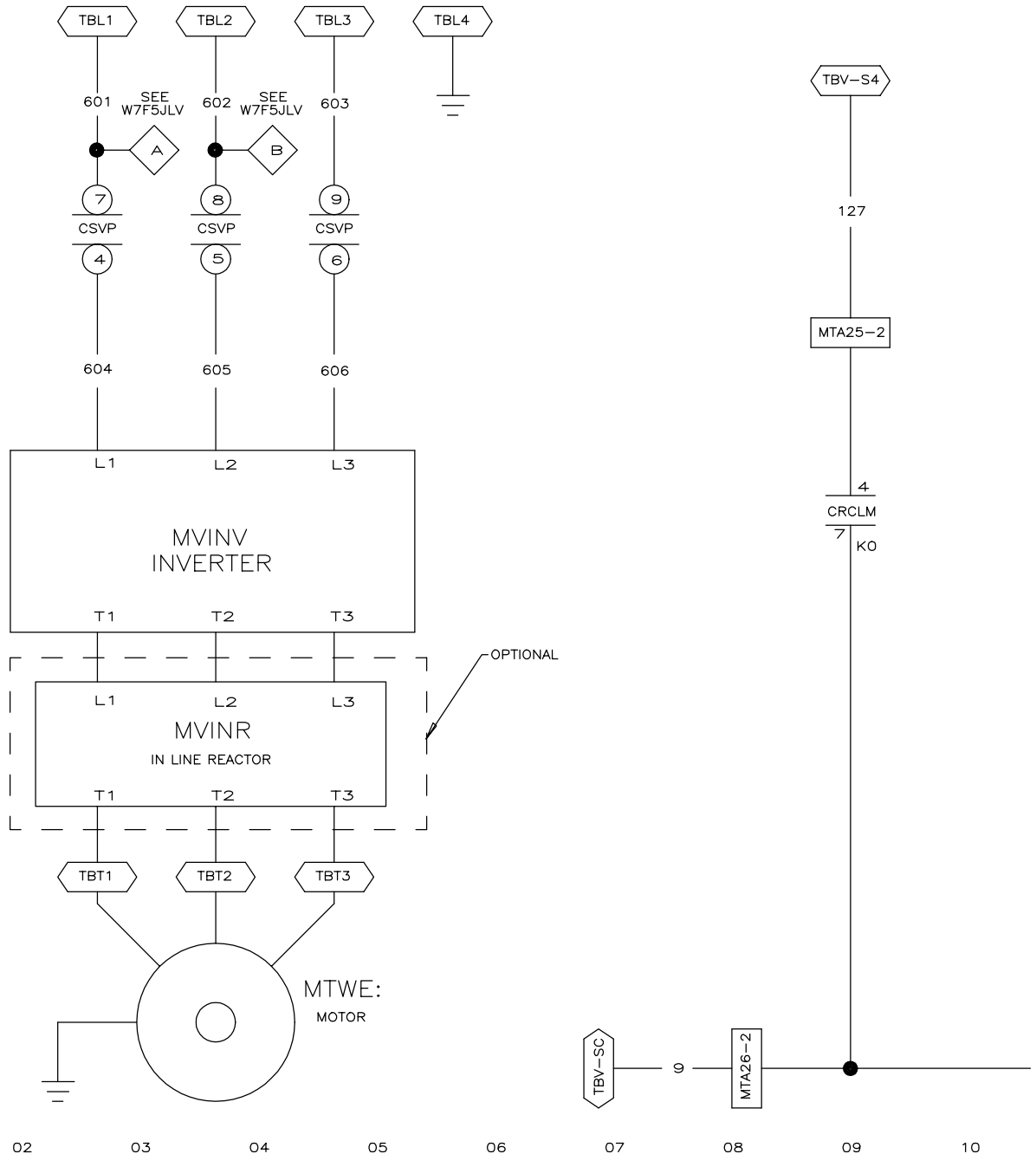
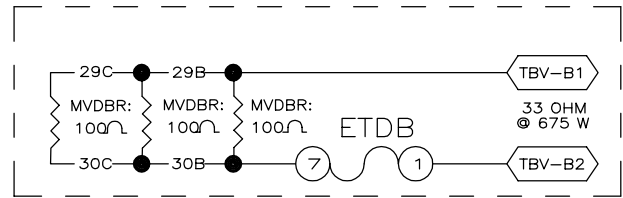
W7F5JVP  
MICRO 7 SYSTEMS MARK V  
FOR 30022 F#J ONLY (GPD333)  
SCHEMATIC: VARIABLE SPEED CONTROLLER  
PELLERIN MILNOR CORPORATION

# FOR 7.5 HP INVERTER

## HIGH VOLTAGE



## LOW VOLTAGE



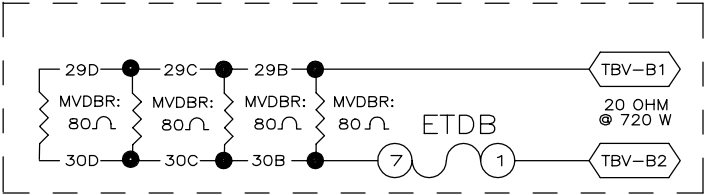
LITHO IN U.S.A.

00 01 02 03 04 05 06 07 08 09 10

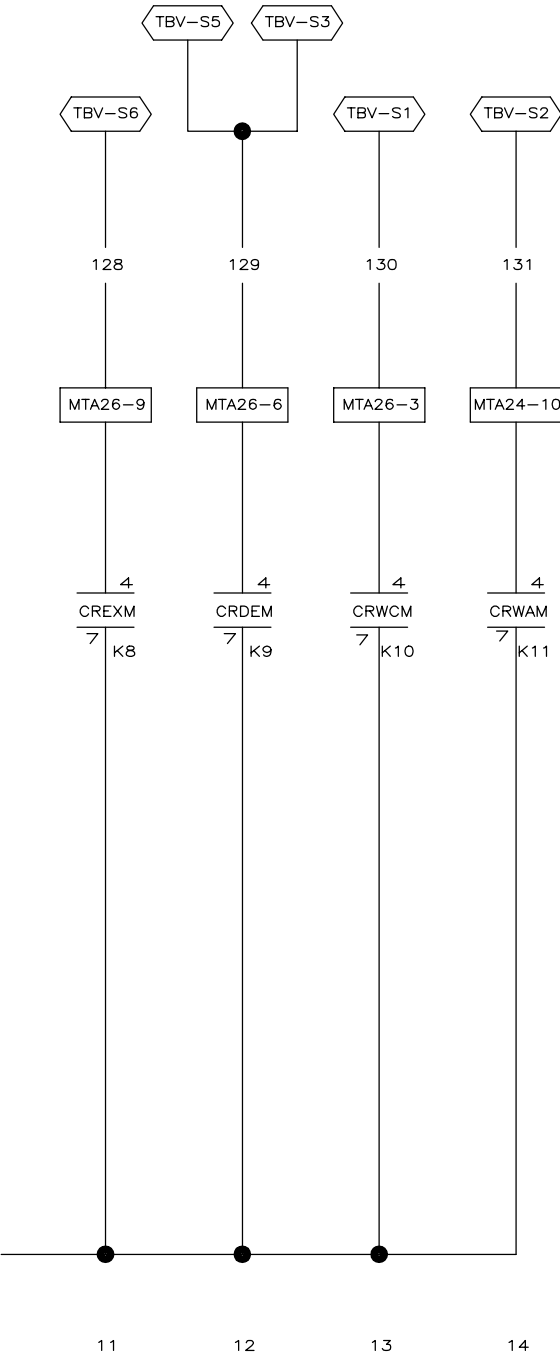
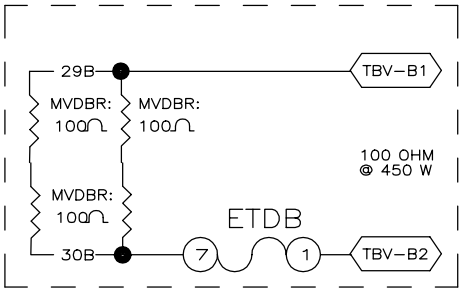
W7F5JVPB  
2001125B



FOR 10 HP INVERTER  
LOW VOLTAGE



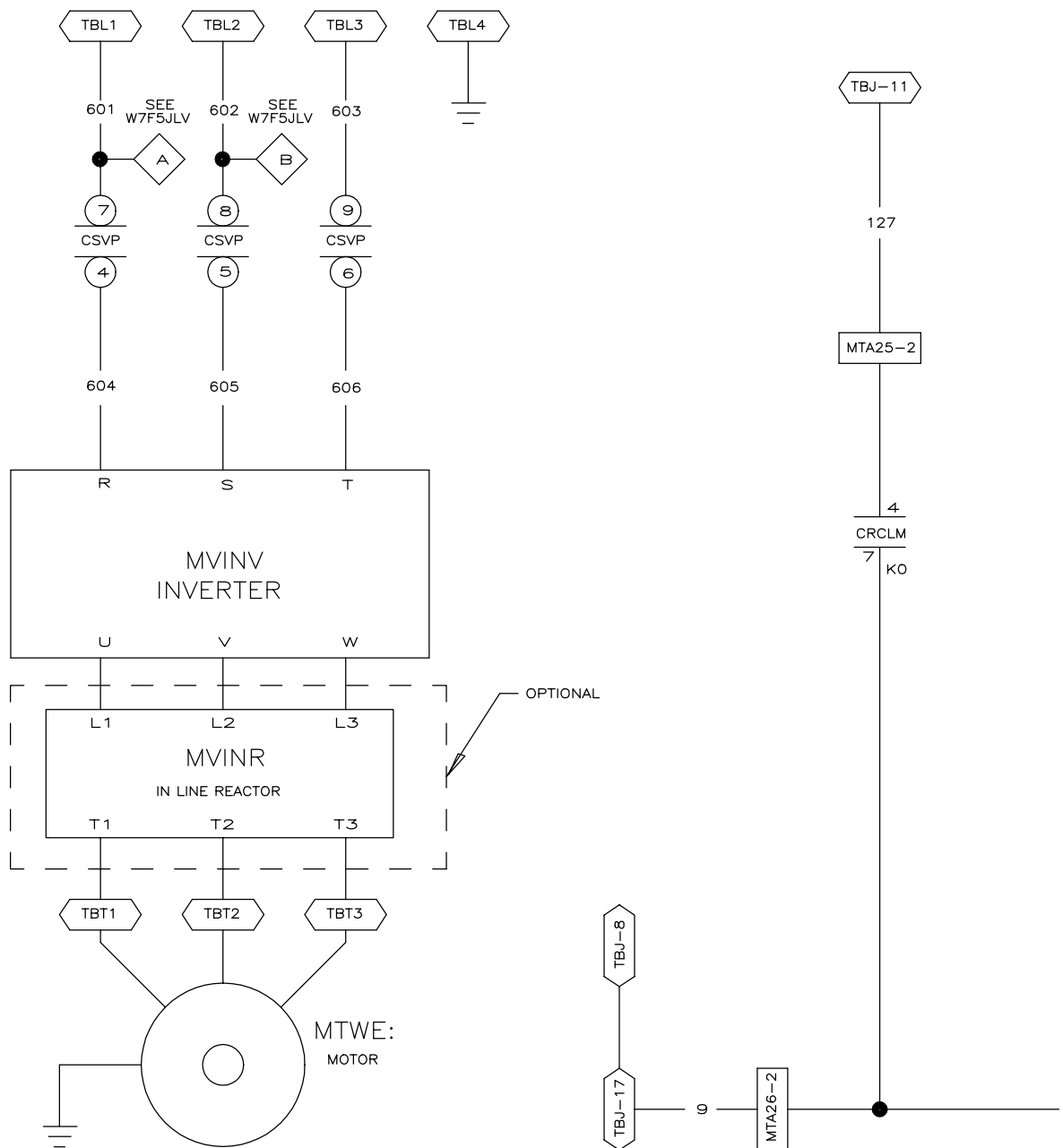
HIGH VOLTAGE



	CW		CCW		
	K10	K11	K0	K8	K9
WASH 1	X				
WASH 2	X		X		
DRAIN	X			X	
EXTRACT 1	X				X
EXTRACT 2	X		X		X
EXTRACT 3	X			X	X
OUT OF EXTRACT					X

NOTES:  
1. TBV IS LOCATED ON VARIABLE SPEED CONTROLLER.

W7F5JVPB  
MICRO 7 SYSTEMS MARK V  
FOR 36 AND 42 F#J OR V#J ONLY  
MODIFIED FOR GPD505 & 506 INVERTER  
SCHEMATIC: VARIABLE SPEED CONTROLLER  
PELLERIN MILNOR CORPORATION



LITHO IN U.S.A.

00 01

W7F5JVPC  
2001175B

02

03

04

05

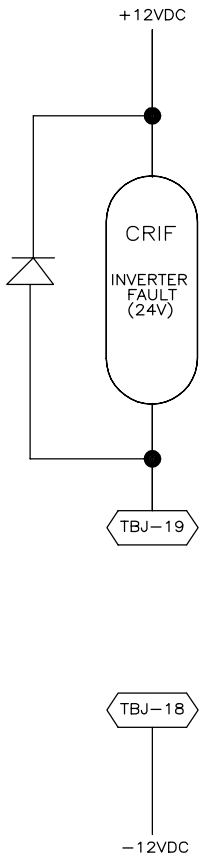
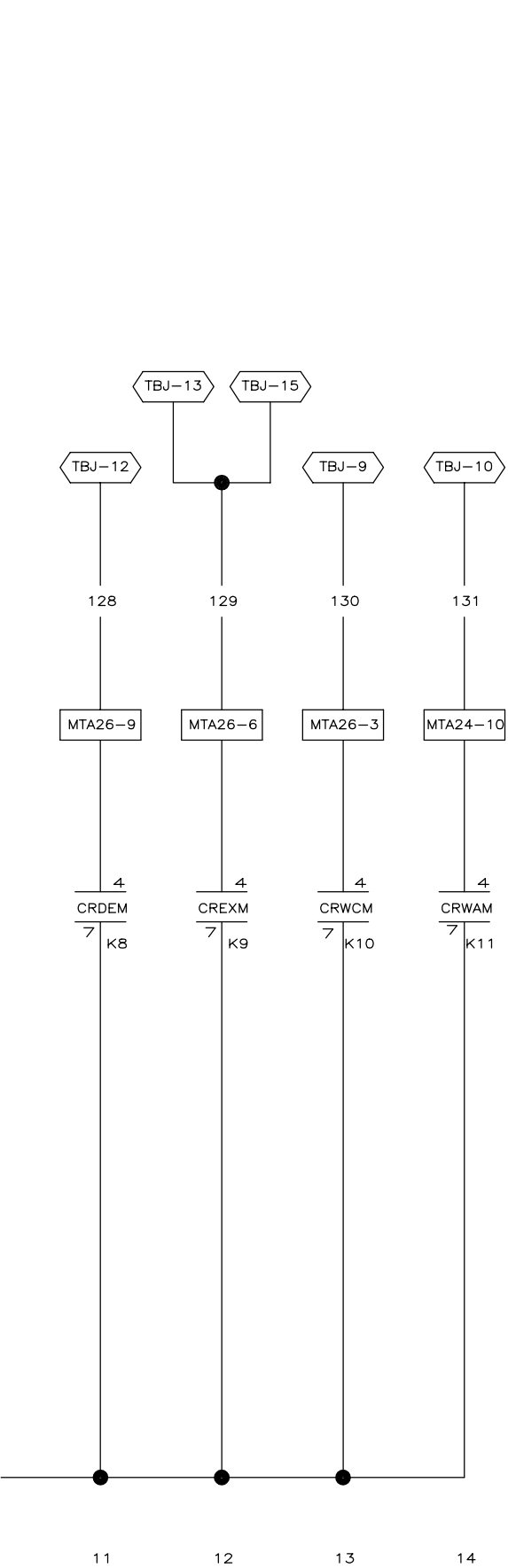
06

07

08

09

10

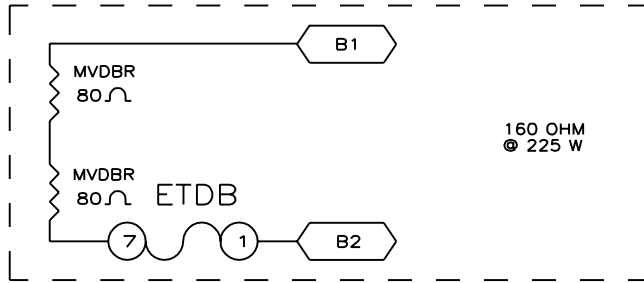


	CW		CCW		
	K10	K11	K0	K8	K9
WASH 1	X				
WASH 2	X		X		
DRAIN	X			X	
EXTRACT 1	X				X
EXTRACT 2	X		X		X
EXTRACT 3	X			X	X
OUT OF EXTRACT					X

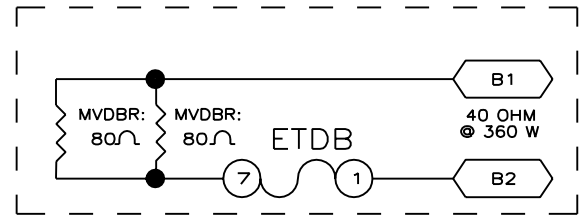
NOTES:  
 1. TBJ IS LOCATED ON VARIABLE SPEED CONTROLLER CONTROLLER.

W7F5JVPC  
 MICRO 7 SYSTEMS MARK V  
 FOR 36 AND 42 F#J OR V#J ONLY  
 MODIFIED FOR BALDOR INVERTER  
 SCHEMATIC: VARIABLE SPEED CONTROLLER  
 PELLERIN MILNOR CORPORATION

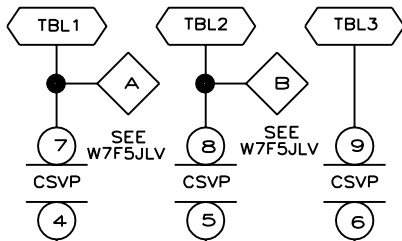
# HIGH VOLTAGE



# LOW VOLTAGE



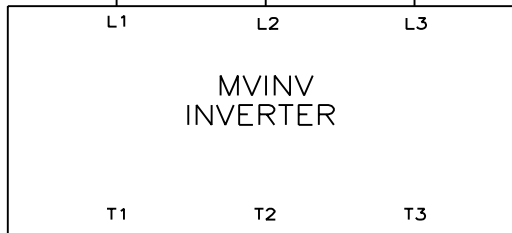
TBL4



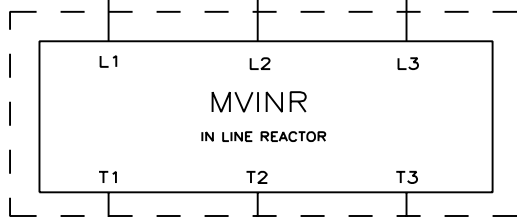
604

605

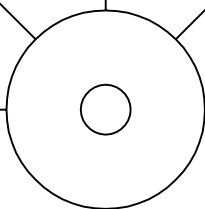
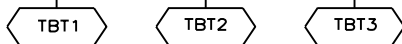
606



MVINV  
INVERTER



MVINR  
IN LINE REACTOR



LITHO IN U.S.A.

01 02 03 04 05 06 07 08 09 10

W7F5JVPD  
2001084B

S7

S3

132

127

MA

MTA25-2

MC

133

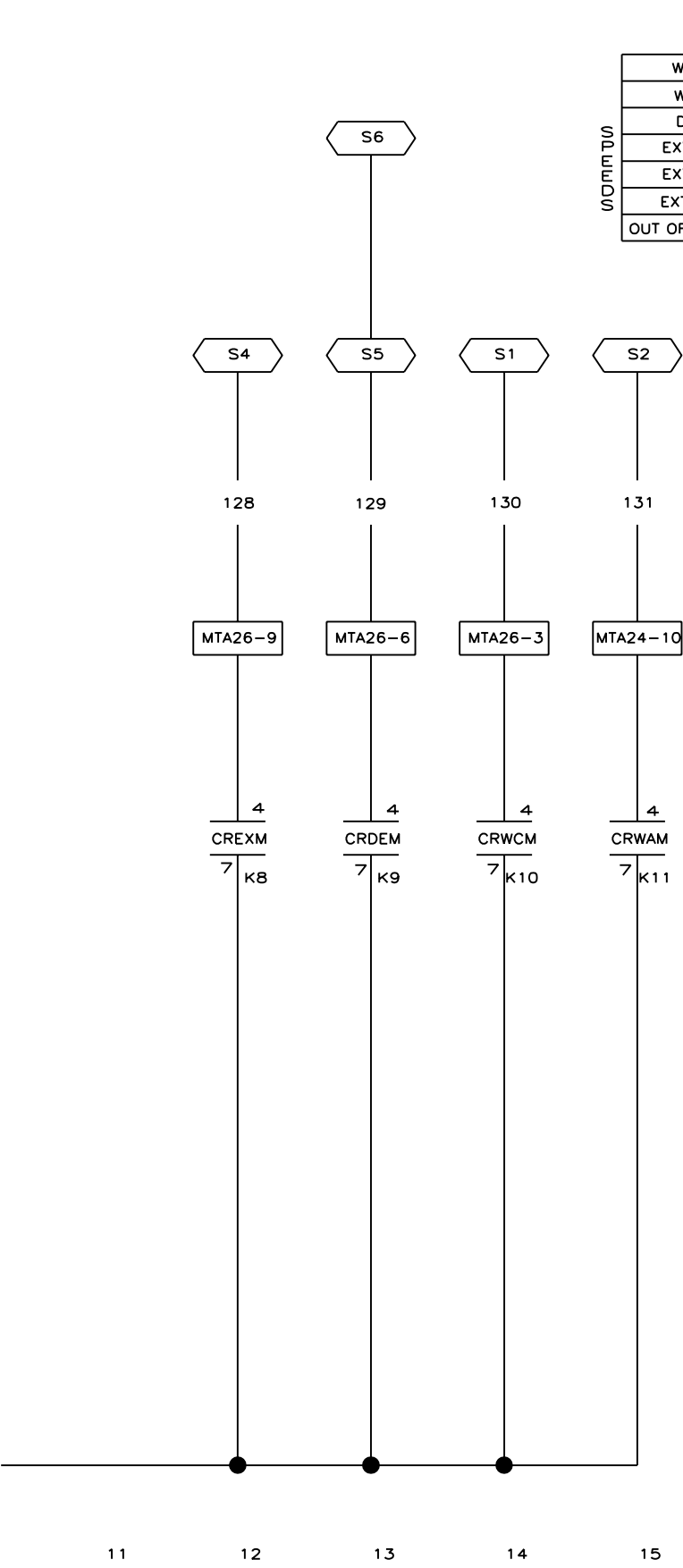
CLOSES  
WHEN  
VARIABLE  
SPEED  
CONTROLLER  
FAULTS

4  
CRCLM  
7 KO

SC

9

MTA26-2

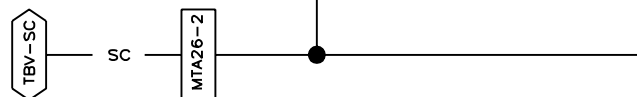
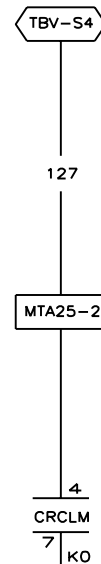
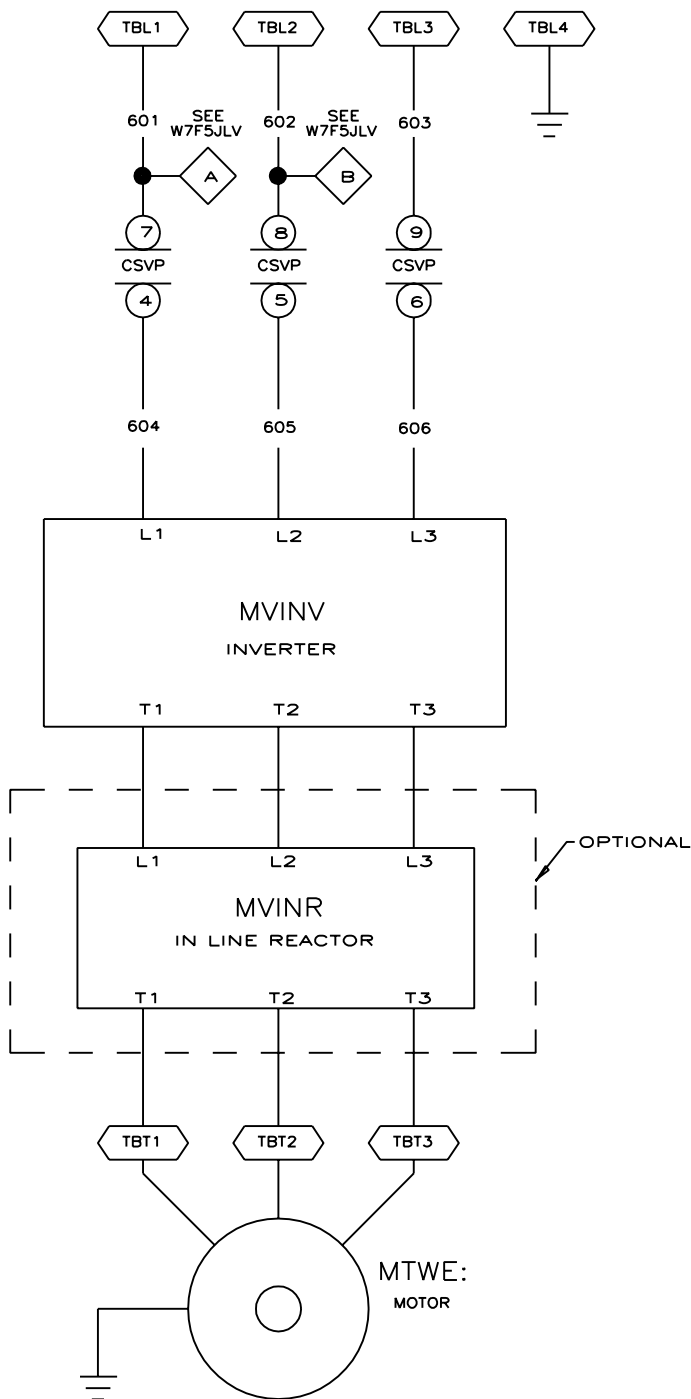


	CW	CCW	S3	S4	S5
	K10	K11	K0	K8	K9
WASH 1	X				
WASH 2	X		X		
DRAIN	X			X	
EXTRACT 1	X				X
EXTRACT 2	X		X		X
EXTRACT 3	X			X	X
OUT OF EXTRACT					X

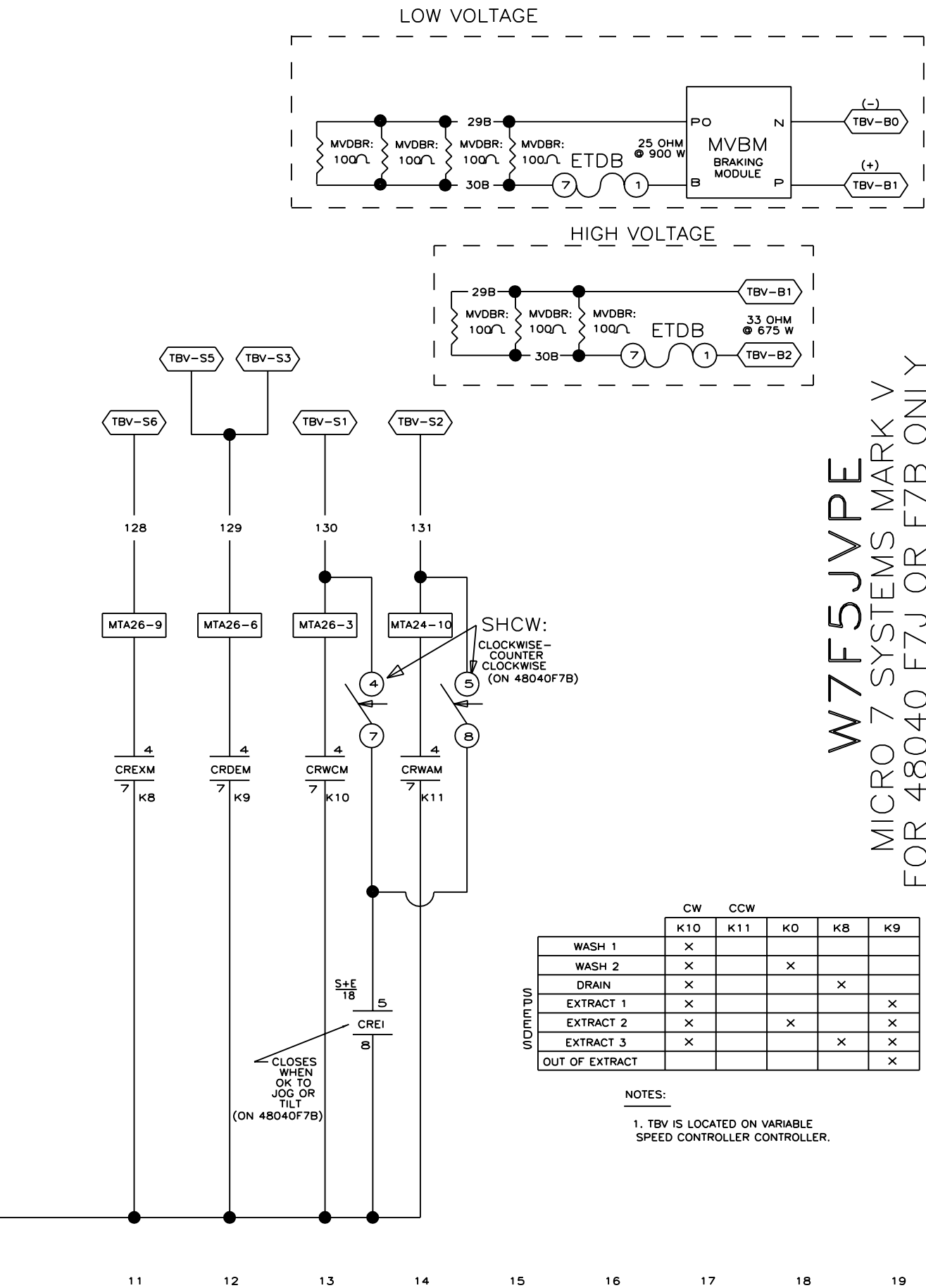
NOTES:

1. TBV IS LOCATED IN VARIABLE SPEED CONTROLLER BOX ON VARIABLE SPEED CONTROLLER.

W7F5JVPD  
MICRO 7 SYSTEMS MARK V  
FOR 30022 F#J ONLY  
SCHEMATIC: VARIABLE SPEED CONTROLLER (GPD315)  
PELLERIN MILNOR CORPORATION



LITHO IN U.S.A.



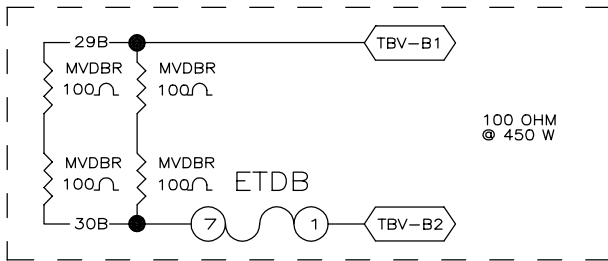
W7F5JVPE  
MICRO 7 SYSTEMS MARK V  
FOR 48040 F7J OR F7B ONLY  
MODIFIED FOR GPD505 & 506 INVERTER  
SCHEMATIC: VARIABLE SPEED CONTROLLER  
PELLERIN MILNOR CORPORATION

	CW		CCW		
	K10	K11	K0	K8	K9
WASH 1	X				
WASH 2	X		X		
DRAIN	X			X	
EXTRACT 1	X				X
EXTRACT 2	X		X		X
EXTRACT 3	X			X	X
OUT OF EXTRACT					X

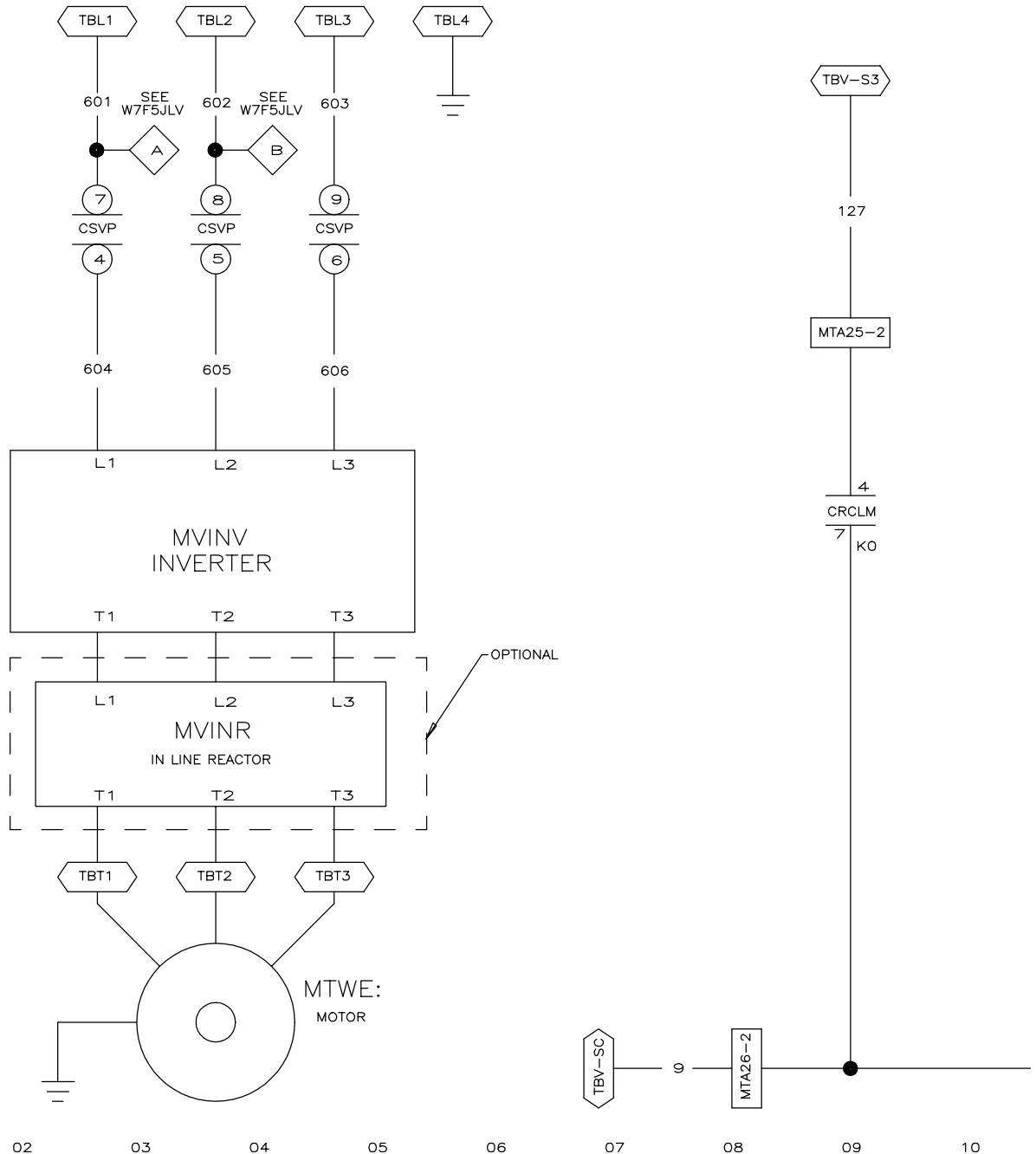
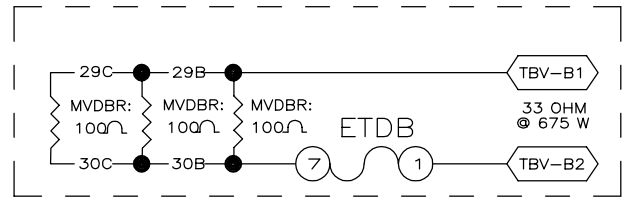
NOTES:  
1. TBV IS LOCATED ON VARIABLE SPEED CONTROLLER CONTROLLER.

FOR 7.5 HP MOTOR (36030F8J)

HIGH VOLTAGE



LOW VOLTAGE



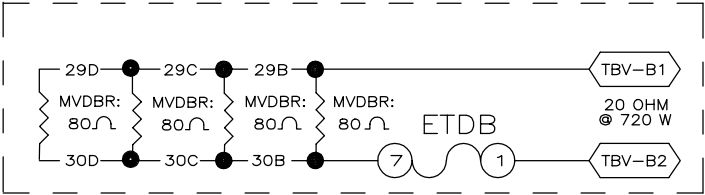
LITHO IN U.S.A.

00 01 02 03 04 05 06 07 08 09 10

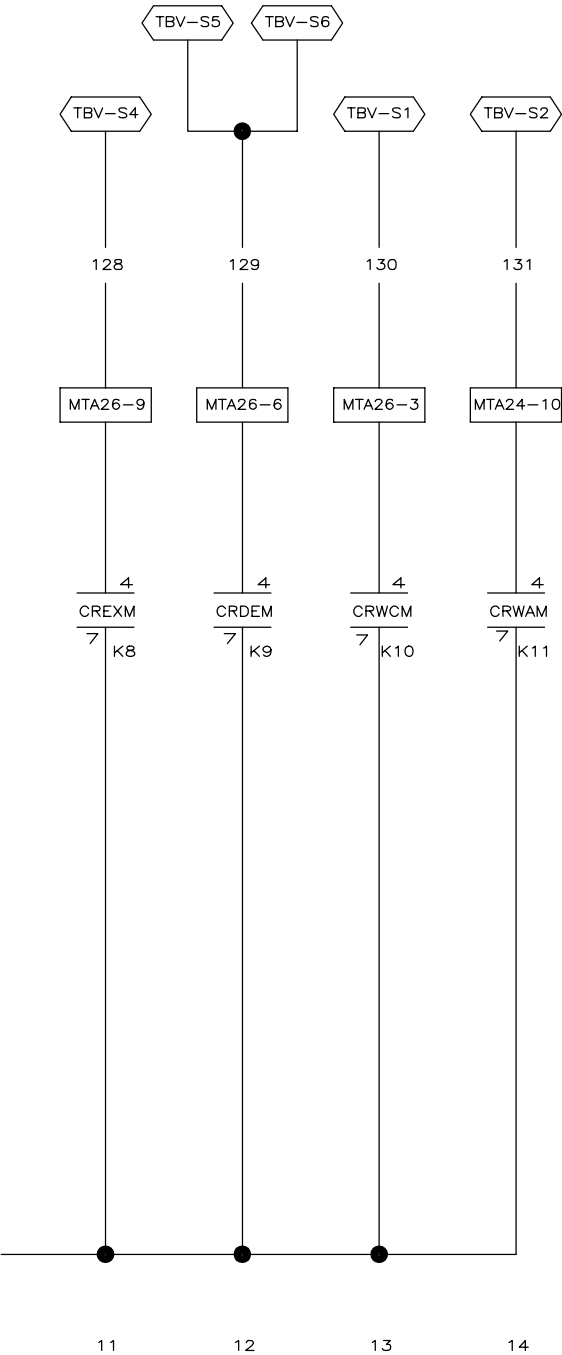
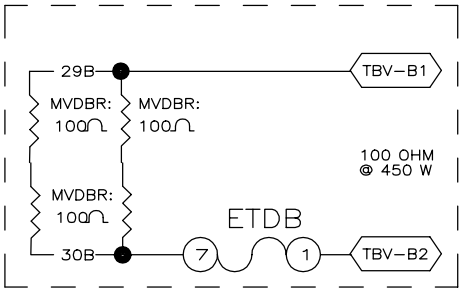
W7F5JVPF  
2001322B



FOR 10 HP MOTOR (42032F7J)  
LOW VOLTAGE



HIGH VOLTAGE



	CW		CCW		
	K10	K11	K0	K8	K9
WASH 1	X				
WASH 2	X		X		
DRAIN	X			X	
EXTRACT 1	X				X
EXTRACT 2	X		X		X
EXTRACT 3	X			X	X
OUT OF EXTRACT					X

NOTES:  
1. TBV IS LOCATED ON VARIABLE SPEED CONTROLLER.

W7F5JVPF  
MICRO 7 SYSTEMS MARK V  
FOR 36 AND 42 F#J  
MODIFIED FOR GPD315 INVERTER  
SCHEMATIC: VARIABLE SPEED CONTROLLER  
PELLERIN MILNOR CORPORATION